





Martha Cavett.















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OF

FLOWERS, FRUITS, AND GENERAL HORTICULTURE.

CONDUCTED BY

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THE

# FLORIST AND POMOLOGIST.

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## COLEUS QUEEN VICTORIA.

WITH AN ILLUSTRATION.

**N**O family of plants has, in modern times, so speedily acquired notoriety as that of the *Coleus*. It is not so long since that our gardens could boast only a few weedy species, of which the most important was the "Nettle Geranium" of cottage windows. Then came *C. Blumei*, the red-stained leaves of which first drew attention to the family as ornamental-foliaged plants; this being followed by *C. Verschaffeltii*, the still brighter colours of which have been turned to so good an account in conjunction with the silvery *Centaureas* for summer bedding purposes; and this, again, being succeeded by the almost black-leaved form of *C. scutellarioides* known as *nigricans*, the purple-veined *C. Gibsoni*, and the green-edged *C. Veitchii*.

The foregoing, with one or two trifling sports, were all that we possessed up to the beginning of the present year, when a set of a dozen novel hybrids, raised in the Chiswick Garden of the Royal Horticultural Society by Mr. Bause, on their appearance in public, created quite a *furor*, and realized, when offered for sale at Stevens' Auction Rooms, the large sum of £393. These included frilled-leaved, plane-leaved, and reticulately-marked forms, represented respectively by *C. Bausei*, *C. Saundersii*, and *C. Scottii*; but the ground-colour was green, with markings of a deep chocolate purple. Mr. Bull, taking the hint from Chiswick, was soon in the field with a second set of varieties, several of which proved to be desirable acquisitions; and thus the *Coleus* family may be said to have taken the public by storm, so rapidly did its beautiful and novel variations come forth. What the value of these new sorts as bedding plants may be, has not yet been fairly determined, but they are certainly very beautiful objects if only suitable to be grown as pot plants for conservatory decoration.

During the past summer *C. Telfordi*, a yellow-leaved sport from *C. Blumei*, was announced. This, from the contrast between its yellowish margin and chestnut-red centre, proved to be a very pretty indoor plant; and, taken in conjunction with

the appearance of golden-leaved forms of so many other popular subjects, gave rise to a desire for golden-leaved Coleuses, which Mr. Bause was not long in satisfying; for in the past autumn, on crossing some of his former seedlings with *C. Blumei* itself, he succeeded in producing a batch of most brilliant-coloured varieties, far excelling all that had been previously known, and of which the beautiful plant we now figure is one. These new varieties are of indescribably rich tints of bronzy crimson, with a peculiarly lustrous glow which gives the effect of shot silk—the shot colour being in some cases of a brighter crimson, and in others of a magenta purple, while the margin is of a decided greenish yellow, differing in width in the different kinds, and forming a bead-like edging. That which has been named *QUEEN VICTORIA*, represented in our plate, and which has passed into the hands of the Messrs. Lee, of Hammersmith, is the brightest in colour of the whole series; while in the same style, but differing in tint as well as in breadth, either of blotch or margin, are others named *Princess Royal*, *Princess of Wales*, *Duke of Edinburgh*, and *Her Majesty*.

The same batch of seedlings yielded in *Albert Victor* an equally desirable acquisition, having tricolor foliage. This is of a very bold habit of growth, the golden margin broader than in most of the other sorts, and the bronzy red centre stained with large blotches of a deeper purplish red. *Prince of Wales* resembles it in the blotching, but has scarcely any yellow at the edge. To these have to be added some forms of the *C. Gibsoni* race, obtained at the same time, and equally in advance of all previous varieties of that type; they are of a yellowish green, more or less veined and blotched, but the colour is a bright purplish red, instead of the heavy, almost black, purple of the older forms. These latter have been named *Prince Arthur*, and *Princess Beatrice*.

We have certainly acquired in these golden varieties of *Coleus* some of the most beautiful-leaved plants of which our gardens can boast. Whether they will be available for the outdoor garden remains to be seen. The question will, however, soon be set at rest, as they will be distributed in quantity, in time for the next summer's planting; and from their vigorous growth, they may be expected to succeed at least as well as those previously grown. M.

### THE FLAVOURING OF PEARS.

HOW shall we secure well-flavoured Pears? is a question often asked, and as regards some varieties, it may perhaps be answered with tolerable satisfaction, while as to others it is not so. Hence it would, I am sure, be both instructive and interesting, if those who have made notes on the subject would record their experience in this matter, in the pages of the *FLORIST AND POMOLOGIST*. Mr. Tillery has stated (1868, p. 243) that at Welbeck the finest and best flavoured Pears have been grown on a trellised arcade. In my own experience I have found that *Marie Louise*, *Chamontel*, *Flemish Beauty*, *Glou Moreceau*, *Ne Plus Meuris*, *Zéphirin Grégoire*, and *Beurré Diel* have in

most seasons the best flavour when grown without the aid of walls. I have also noticed that Marie Louise, when grown on a wall, is of better flavour when obtained from a western than from any other aspect. Soil and situation have, however, much to do with both the size and the flavour of Pears.

The summer of 1868 gave an advantageous opportunity to trees in the open ground to mature their fruit and wood, such as is not often experienced in this country; therefore 1868 must be regarded as exceptional, and our ordinary summers must be taken as forming the rule by which we should be guided in planting. In this way we shall come to plant the right sort in the right place.

*Somerley Gardens, Ringwood.*

HENRY CHILMAN.

### DOMESTIC AIDS TO GARDEN CULTURE.

**H**IFE, daughter, sister! These are helpmeets in a garden, as everywhere else. How softly they touch, how tenderly they gather, how gracefully they bend over, how passionately they admire our favourite flowers! Every Primrose becomes a love, every Violet a duck, every Lily a darling, every Daisy a pet, in their charming vocabulary. The flowers, too, assume a lovelier form; even the Roses blush a deeper crimson beneath the witchery of woman's smile, and our fair sisters never look so irresistibly charming as when ministering to the wants, or gathering for their special use the treasures of the garden. Nevertheless I do not now refer to such ministrants as these.

Children, then? Bless their rollicking happy faces and joyous merry hearts! May our hearts never become so sere and old as to consider any home or garden scene complete, where their ringing laugh of boisterous gladness is not heard! Their presence seems even to thrill the flowers into a richer, fresher, fuller beauty. And then, oh! how heartily and happily *they can* dig, and plant, and sow, and wheel, and prune, and hoe, and rake, and weed, and water! What if they dig the flowers out as well as in, plant upside down, prune so severely that nothing is left, wheel earth upon gravel, and gravel upon earth, rake the soil up into tiny mountains, and level it down into deep valleys? The plants, like their household pets, get accustomed to their vagaries, and often grow up into vigour beneath their childish care, and expand into beauty with the growth of their own young lives. And our gardens would be prosy and dull without their gladdening presence and well-meant ministrations. But I don't mean children.

Domestic animals? Well, now, I believe in cats. They not only destroy our vermin, but they can learn good manners; and, properly trained, they never break a plant. How carefully they choose their path! how lightly they tread! and they are such soft, silky, sociable, sincere friends, that no home nor garden seems quite perfect unless enlivened with their complacent purring notes of gladness. Nevertheless, I do not mean cats. Fowls, then? These can also be taught some of the proprieties. There are sensible fowls, that can be admitted into gardens, that will conduct themselves in a quiet, dignified manner, and, as a

rule, content themselves with gobbling up surface vermin. But occasionally even these will forget themselves, and dig down for subterraneous supplies, threatening at one and the same time to make for themselves and our dearest treasures one common grave; and consequently even the wisest of these can do but little to aid, and very much to hinder, garden culture.

No. The aid I allude to is widely different from any of these. Its chief characteristic is its *uselessness* in the *house*. It adds nothing to the comfort nor enjoyment of home life; but, on the contrary, endangers both in every possible way. It wages constant war with health, and is in solemn league with death. It is antagonistic to beauty or comeliness in our homes, and yet fosters the development of both in our gardens. Thus, by accepting its offered help, garden and house alike gain, the former in beauty, the latter in sweetness. With this clue to the character of our aids to garden culture, I leave the subject for the present.

*Hardwicke House, Bury St. Edmund's.*

D. T. FISH.

### PASSIFLORA QUADRANGULARIS.

**T**HIS fine stove-climber flowered last year with me in great profusion, and ripened quantities of its showy and edible fruit. Where plenty of room can be found, it is a grand plant in a warm conservatory or stove, and I know of no climbing plant that can rival it for magnificent foliage and finely-scented flowers. The plant here has only been planted out three years in a rather confined border of a warm conservatory; but the soil is very rich, and during the different flowering periods plenty of liquid manure made from deer-dung was given it. The plant covers a large space on the roof, and on two or three occasions during the past summer the number of flowers opening every day could be counted by thousands, and their beauty, combined with their delicious fragrance, made the house one of the most enjoyable to be imagined. When fruit is required in any quantity, the flowers must be artificially impregnated—an operation which is easily performed in all the Passion-flowers. The fine foliage of this plant keeps remarkably free from any kind of insect, which is another great merit, and most favourable to its extended cultivation.

*Welbeck.*

WILLIAM TILLERY.

### POINSETTIA PULCHERRIMA.

**F**EW plants are more useful for decorative purposes during the winter months than the *Poinsettia pulcherrima*, and few more easily grown when there are the proper appliances. Probably the very best mode of propagation is the same as that universally in use for the Grape Vine. Eyes from ripened wood of the previous year's growth should be planted in April in rich light earth, and placed in a brisk bottom-heat; water should be applied very sparingly until they begin to grow and root freely, when they should be potted singly. They may be shifted as necessary, and finally

placed in 6-in. pots, keeping them in heat until about the middle of June, when they should be transferred to the greenhouse, gradually hardened off, and finally fully exposed to the air, under which circumstances they should remain until the beginning of September, when they must be again removed into the stove, and by about the middle of November their magnificent whorls of scarlet floral leaves will appear, and will remain for six weeks or two months in great perfection. They will now bear warm conservatory treatment, if due care be taken in gradually hardening them off.


Plants grown in the way just indicated will only produce one flower-head. When larger plants are required, they should be kept growing in the stove after flowering up to the middle of June of the following year, when they should be partially dried off (*i.e.*, water withheld from them for a week or two), previous to cutting them down. This drying-off is necessary to prevent their bleeding. Cut down the plants about the beginning of July, and as soon as the young shoots commence to grow they should be turned out of their pots, the balls reduced, and placed again in pots of the same size as before. They require to be kept in a nice growing temperature, until they receive their final shift, which should not be later than the middle of August; and if they have progressed well, they might then be put in 9-in. pots. The after-treatment will be exactly the same as recommended for the small plants.

These plants are excellent for drawing-room decoration, and the dwarf ones more especially for furnishing plant-cases.

*South Kensington.*

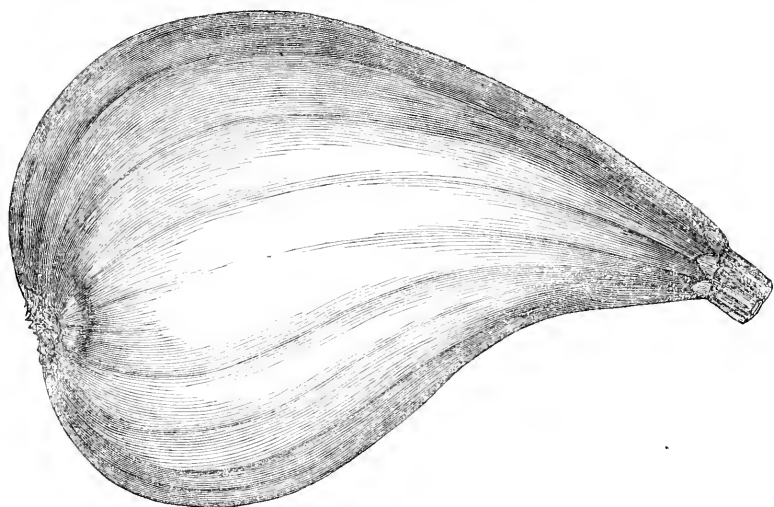
GEO. EYLES.

### NEGRO LARGO FIG.

LTHOUGH the Fig is one of the most extensively cultivated, most nutritious, and highly prized of fruits, the comparative indifference with which its cultivation has been treated, in all except the most extensive gardens, is such as to excite the amazement of those who know the facility with which it may be grown. There are exceptions to this statement, but they are so few as only to prove the rule. This indifference to their culture, is the reason why there has been till lately, a very limited knowledge among us as to the superior excellence of some of those splendid Figs that are to be met with scattered about in various parts of the South of Europe, and on the shores of the Mediterranean, where the Fig forms so important a feature in agriculture, and so valuable an article of commerce. The taste, however, for Figs as dessert fruit is rapidly on the increase among us, and as the knowledge of their culture extends, and the successful management of the fruit while ripening is better known, we shall hear no more of the repellent disgust with which people have been accustomed to regard what they call "green Figs." We have eaten "green Figs" in what would be considered first-rate establishments, which we could compare to nothing but an insipid herbaceous poultice; and we have also eaten

them in the condition of the most delicious sweetmeat. But to have Figs worth eating, we must have—as in every other kind of fruit—sorts worth growing, and among these there is one brought to our notice by Mr. Fleming, of Cliveden, which is one of the most remarkable in size, quality, and fertility, it has been our fortune to meet with. The following figure and description from Hogg's *Gardeners' Year-Book* will convey to our readers an idea of this superb fruit:—

“This is a noble-looking Fig, and one of high merit. The fruit is of the largest size, oblong obovate or pyriform. Skin jet black, marked with longitudinal ribs extending the whole length of the fruit. Eye open, and generally with a globule of syrup dropping from it when quite ripe. Stalk short. Flesh pale red, very tender and juicy, with a rich, thick,



and highly-flavoured juice. When highly ripened, the flesh and skin together become quite melting, and form a most delicious sweetmeat. This variety is in the possession of Mr. Fleming, of Cliveden, who exhibited the fruit at a meeting of the Fruit Committee last autumn. In a communication from Mr. Fleming he says, ‘Out of twenty sorts from the Spanish frontier, this is the only one that has fruited. The habit is good, and for growing in pots it is unequalled by any other Fig I know. The plant from which the fruit was gathered was grown in an 8½-inch pot, and brought to perfection three dozen fruit weighing from three to four ounces each.’”

H.

### DENDROBIUM NOBILE FOR WINTER BLOOMING.

CONSIDERING that nearly every gardener in Great Britain and Ireland is expected to supply cut flowers and flowering plants for decorative purposes, it is surprising that such plants as *Dendrobium nobile* and its varieties should not be more frequently grown, especially for the supply of winter and spring flowers. Even when there is no plant stove proper, these Dendrobes may be grown and flowered every season in profusion, if such houses as vineries are at command.

The early spring, when the plants commence to grow, is the proper time to



divide or repot them if required. Fibrous peat, with all the fine earth shaken out, with half its quantity of sphagnum moss, and small lumpy charcoal, form the best potting material; through this, when properly prepared, the water will pass as through a riddle; and this is essential to the healthy action of the roots. In potting, good drainage must be secured by placing a crock over the drainage-hole, hollow side downwards, then smaller ones over this in such a way as to secure perfect permeability. In a 6-in. pot 2in. deep of crocks will be sufficient.

Where large specimens are not required, 6-in. or 8-in. pots are large enough to furnish nice useful plants. Before potting, cut the dead roots clean away, and place a little sphagnum over the crocks as a protection to the drainage. In potting, work the compost carefully among the roots without bruising them, the base of the stems being an inch or two above the rim, and just clear of the potting material; tie them to stakes sufficiently firm to keep them steady until they make fresh roots, and give a good watering with well-aired water. The plants must be placed not too far from the glass, where heat, light, and moisture can be secured to them, and where they may be shaded from strong sunshine only—for too much shading is injurious. They must not want for moisture at their roots, although water must be given with discretion, and in all cases as warm as the atmosphere in which the plants are growing. This is essential, and applies not only to the plants here treated of, but to all others grown in the stove or greenhouse. The plants during their growth must be kept clear of insects, by occasionally washing them with a sponge and warm water. A minimum temperature of from 60° to 65°, and a maximum of from 70° to 75°, will suit them, with a moist atmosphere during their season of growth. When the growth is completed, a drier and more airy atmosphere must be supplied, in order to ripen the stems. This ripening process, during which they must be more exposed to sun and light, is the secret of securing with certainty a profusion of bloom. Water must at this time be gradually withheld from them, until—say by the end of September—it is withheld altogether, or nearly so, only just enough being given to keep the stems plump. From this time a still cooler place, such as a dry greenhouse, will suit them.

About the middle of November, when the flower buds will be forming, they may be taken into a warmer house and have a gradually increasing supply of water, which, together with the increased warmth, will bring out their flowers by the end of December. If not required so soon, they can be retarded by keeping them longer in the drier and cooler house. By introducing into heat, say once a fortnight, a plant upon which the flower buds are formed, the flowering season may be kept up for five or six months in the year, where there are, say, a dozen plants to work upon. The proper flowering season is the spring months, but by resting the plants both earlier and later, it may be prolonged from November to June.

As soon as the plants have done flowering they will begin to grow, and if

repotting is required it must at this time be done, introducing them into heat and moisture, as before. Do not wait until all the plants are in a fit state for potting or growing, but attend to each as it comes to require it. The stronger the plants grow, the greater the profusion of flowers they will produce. The flowers are borne upon two-year-old stems, in pairs or threes, at every joint, from the top for at least three-fourths of their length downwards, and *en masse* have a very rich appearance; in a dry and cool place they will keep fresh for four or five weeks.

*Dendrobium nobile* is, among flowers, as much the gardener's friend as the Black Hamburg Grape among fruits. It is not requisite to pot it every year; one good potting in sound, lasting, porous material will serve for two years at least. The above treatment is applicable to the following species and varieties:—*Dendrobium nobile*, and *nobile intermedium*, *D. cœrulescens*, *D. Wallichianum*, *D. Linawianum* (moniliforme of gardens), and many others.

W. MOORE.

#### THE NEW ROSES OF 1867.

RECENTLY I have given an alphabetical list of forthcoming New Roses, with *the raisers' descriptions*, and it may prove interesting to lovers of this flower to hear something of the novelties of the preceding year, from my own observation. I buy every year some forty or fifty of the new varieties. As a matter of business, half that number would suffice; but I must confess that rose-growing has always been a hobby, as well as a matter of business with me; and the extra plants admit of my mounting my hobby in my own way. True, they cost money, but what hobby does not? Then, again, one knows *beforehand* what this hobby will cost, which certainly gives rose-growing an advantage over some hobbies—horse-racing, to wit; and there is no fear of breaking one's neck or blowing one's hand off in rose-growing, as is possible in hunting or shooting. If there is no strong excitement here, no display calculated to call down plaudits from our fellow men, there is a refined intellectual enjoyment to be found in it, healthy mental exercise, and plenty of muscular exertion, if we so will it. So, at least, I have found it over the last thirty-three years, and constantly meet with fellow-workers who speak of their experience in similar terms.

I had better flowers, and more of them than usual from the novelties of 1867. Perhaps the brood was not above the average in quality of sorts, but the plants were better, to begin with. To digress here, for a moment.—how is it that nearly all the new roses are described as “vigorous,” when often one-third of them will hardly grow at all? Do the raisers delude themselves by dealing in hopes, instead of with facts, or do many kinds really vigorous when beginning life anew from the seed, fail and sink under the fast life which, if there is anything in them, they are often compelled to lead? Certain it is that some roses at four years are as old or older than some men at fourscore. This is a

nut to crack in the closet rather than in the garden, and commending it to the thoughtful consideration of our vegetable physiologists, I pass on.

*Aristide Dupuis* (H.P.) was one of the first to unfold its blossoms, the quality of which is excellent; the ground colour is slate, flamed with scarlet; the flowers large, full, of good form, and produced in abundance. The habit is vigorous and good.

*Alice Dureau* (H.P.) is an exceedingly pretty rose, although of a common colour—clear rose; the flowers are large and full, of globular form; the habit and constitution seem good and vigorous. This rose was raised and sent out by Mr. Vignerou, of Olivet, near Orleans.

*Baron Haussmann* (H.P.), which must not be confounded with *Baronne Haussmann*, is a good rose; the colour bright red, the flowers large, full, and of fine form. The growth is vigorous.

*Boule de Neige* (H.P.) is a little gem, for the flowers are hardly of average size, but they are white, very pure, full, and finely formed; with me it proves a free, hardy rose, flowering abundantly and well, both in summer and autumn.

*Clotilde* (Tea-scented) is good, rather too near in colour and general character to that fine old tea-scented rose *Bougère*, but lighter in colour. One plant produced here twenty fine blooms, variable in colour, rose, red, violet, and white mixing up without order or method; but the flowers were all of good size, opened freely, and were finely shaped.

*Coquette des Alpes* (H.P.) is also a pretty rose, white, shaded with carmine; it is small, but of good form. The growth is vigorous.

*Comte Rainbaud* (H.P.) was very beautiful, although perhaps it will scarcely satisfy those who insist on a rose being quite full; the flowers are dark carmine-cerise, exceedingly brilliant, of large size, and fine outline. It appears hardy, vigorous, and free.

*Cré de Charentay* (H.P.) is a very large dark purple rose, of good form, and vigorous growth.

*Duchesse d'Aoste* (H.P.) is of a bright glossy rose colour; a large nicely cupped flower, of a pretty bright colour, but becoming rather flat with age.

*Elie Morel* (H.P.) is especially valuable for its distinctness, but this is not its only claim to recognition; the flowers are of a delicate rosy lilac, with white edges, large and full, the growth free.

*François Fontaine* (H.P.) is a grand rose, large, full, and of good globular form, the colours dark reddish purple, illumined with scarlet. The growth is vigorous.

*Impératrice Charlotte* (H.P.) bloomed well here, both in and out of doors. The flowers are clear pale rose, often with bright centres, large, full, and well shaped. It appears to be free and good.

*Jean Pernet* (Tea-scented) was not so good here as I had seen it with the raiser in the South of France the year before; still it is promising. The flowers are bright yellow, becoming slightly paler, but very clear after expansion, large, full, and freely produced; growth, vigorous.

*La France* (H.P.) is quite a new style of flower, and will, I believe, become very popular as a garden rose. The shape of this rose is not at all regular, as the outer petals are often fantastically twisted and curled. It is, however, good enough and great enough to stand without conforming to the rules of conventional rose life. The flowers are bright lilac, with rosy centres, often overlaid with a beautiful shade of silvery white. The petals and flowers are large, and the plant, which is apparently of free growth, produces an abundance of flowers in quick succession.

*Madame Chirard* (H.P.) is a beautiful bright rose-coloured flower of fine form, large, and full, and in my judgment the best rose-coloured flower of the year, as I have hitherto seen it better than "Alice Dureau."

*Madame la Baronne de Rothschild* (H.P.) is a first-class novelty, as many will remember who may have seen the plant and flowers exhibited by me at Kensington last spring. I saw this rose with the raiser in the summer of last year, and marked it the best seedling of the year; it has bloomed freely here since then, and quite supports that character. The flowers are very large, almost full, of a beautiful pale pink or rose colour, shaded with white; the habit is good, and the growth vigorous.

*Madame Marie Civodde* (H.P.) is another novelty of undoubted merit. The flowers are pink, or rose, clear in colour, well imbricated, large, and full. The growth is vigorous.

*Madame Noman* (H.P.) is a beautiful pure white rose, not large, but of exquisite form and full. It blooms freely, too freely, indeed, for the plants here were exhausted by the quantity of flowers produced. This and "Boule de Neige," two white roses sent out last

year by rival establishments at Lyons, are both creditable to the raisers. Madame Noman pleases me best as a flower, but Boule de Neige is of hardier constitution, and will, I think, make a better garden rose.

*Merveille d'Anjou* (H.P.) is a very large, full rose, the colour fine bright, deep, purplish crimson. I find it marked in my note-book as "a crimson Baronne Prevost." The form is expanded, reflexing sometimes as the flower ages; the growth is vigorous.

*Pitord* (H.P.) is a pretty enough fiery-red flower, of good form; very velvety, something in the way of *Le Rhône*; the flowers of average size, and full; the growth vigorous.

*President Willermoz* (H.P.) will please all who do not insist on a rose being quite full; the colour is bright rose; and the flowers are large and very beautifully cupped. The growth is vigorous.

*Prince Humbert* (H.P.) is a dark rose, in the way of *Black Prince*. I have a doubt, however, whether it will surpass that fine variety. I saw it at the Paris Exhibition last year, and in Margottin's nurseries both last year and this. There it was fine, but Margottin's roses are usually finer with him than ever seen afterwards. The colour is bright velvety-violet red; the flowers are of good size and full, usually produced in clusters.

*Reine de Portugal* (Tea-scented) is a deep, bright yellow, sometimes shaded with rose and copper. Although this variety has received a first-class certificate in England, yet from what I have seen of it both at home and abroad, I have much doubt of its merit. With me it has been all through of irregular form, and seldom opens well.

*Souvenir d'Adrien Bahivert* (H.P.) seems to be a good hardy rose of free habit; the colour is reddish crimson, shaded with purple; the flowers are large and full; the form globular and fine.

*Souvenir de Cuillat* (H.P.) was very good here last spring; the flowers are violet, purple and scarlet; of large size, full, and produced in clusters. The raiser states that it is superior to Lord Clyde, a variety raised by me in 1859, but of this we require further proof, good as it undoubtedly is.

*Souvenir de François Ponsard* (H.P.) is a bright, rose-coloured flower of globular form, large, full, and very sweet; the petals are large, smooth, and well rounded; the growth is vigorous.

*Souvenir de Pierre Vibert* (P. Moss) is a great acquisition among perpetual moss roses; the flowers are dark red, shaded with blackish carmine, large, full, and of good form, not unlike the old French rose *Boula de Nanteuil*.

*Souvenir de Ponsard* (H.P.) is a rose-coloured flower, flamed with scarlet, large, full, and of vigorous habit; it flowers freely.

*Sophie de la Villeboisnet* (H.P.) is also a rose-coloured flower, frested with silver; it is of good form, large and full, and flowers freely; the growth is vigorous.

*Vicomtesse de Vesin* (H.P.) is a beautiful bright red, of fine form, large and full. This promises to be a free, hardy rose of first-rate quality.

The above are my favourites of 1867. The following also flowered here:—  
Baroness de Beauverger, Charles Turner, Christine Nilsson, Clotilde Rolland, Comtesse de Falloux, Madame Barriot, Madame Louisa Seydoux, Madame Rolland, Mademoiselle Elise Chabrier, Monsieur Barillet Deschamps, and Souvenir de Madame Corval. They are pretty enough roses, but are not in my judgment equal to the first list.

*Paul's Nurseries, Waltham Cross, N.*

WILLIAM PAUL.

## THE QUALITY OF MELONS.

IT is rather a curious fact that at a great many of our Provincial Fruit Exhibitions we should meet with Melons which are very inferior in quality. Why it is so may appear to be a mystery: but no matter whether we travel east or west, south or north, the same condition presents itself. We might have expected that during the past summer there would have been some amendment, as it has been one of the best adapted for Melon culture

that we have for many years experienced, and yet withal I have seen no improvement. I make this statement upon a somewhat extensive survey, for, when acting in the capacity of a juror, I have had to decide on the merits of not less than from twenty-five to thirty at a time, but among the whole I have seldom found more than two or three the flavour of which was even tolerable; very often they proved inferior to the thick-skinned, hard-fleshed, insipid Cantaloups so generally grown forty years ago.

From what has been stated it is not to be inferred that a high standard of quality is rare among Melons, for by perseverance and the aid of fertilization with the Kashmirs, the Cassabars, and other kinds, we have secured a progeny which in some cases possess so exquisite a flavour as to lead us to suppose that nothing more is required. Breeding between so many near relations has, however, been going on so rapidly of late, as to have brought on debility of constitution, so that many of the best varieties have scarcely strength enough to ripen a crop. Are we driven, then, to the conclusion that the deficiency of quality of which I complain, is owing to the want of ability in this particular branch of horticulture? Such an impeachment would be exceedingly unjust; and were I to attempt to support any such statement, I should have all the blue aprons in the kingdom rising against me.

Damaged foliage from whatever cause, an excess of water at the roots, and a too moist atmosphere after the fruit begins to ripen, are, I fear, the proximate causes that produce deficiency in flavour. The loss of even one principal leaf diminishes the elaborating power of the plants, so that the material out of which flavour is formed is greatly reduced. The secondary leaves—those that constantly appear on succeeding shoots—are of less consequence, and the further they are removed from the primary ones, the less important do they become. But this is a subject that I must not discuss at present.

*The Gardens, Tortworth Court.*

ALEXANDER CRAMB.

### SEASONABLE HINTS FOR AMATEURS.—JANUARY.

**U**NDER this head I intend to give such brief practical directions as may be useful to that large class of amateurs who possess a small garden, and who, with the occasional assistance of a man or boy, manage it themselves. My remarks will not include all the details of a general calendar, but will be confined to "Seasonable Hints."

If the weather be open and mild, as it sometimes is in January, the amateur may find much out-door work to do. If he loves flowers, as he is sure to do, and particularly the Queen of flowers, the Rose, he may increase his stock of plants by putting in cuttings now; the autumn is a preferable season, but cuttings of the last year's wood from five to six inches long, put in now, oftentimes do very well. They should be planted in rows one foot apart, and the cuttings should be three or four inches apart in the rows. The soil should be pressed firmly about

the cuttings with the foot, and should a mild spring follow, a large per-centage of them will grow, and make good plants of the best description, being on their own roots. Some kinds strike freely in this way, such as the Gloire de Dijon; and here I would recommend those amateurs who love Roses, and wish to have a succession of beautiful flowers for many months, to plant this sort largely. It does well any way—worked on the briar as a standard, or on its own roots as a bush, either trained up a pillar, or, better still, planted and trained against a south wall. A plant of this rose against my cottage has at the present time (December 14) upwards of one hundred blooms more or less expanded, and should mild weather continue so long, I shall be able to cut a number of splendid blooms for Christmas Day from this one plant, from which I have been cutting blooms regularly since April last. Souvenir d'un Ami is another beautiful, free-blooming, Tea-scented Rose. The Hybrid Perpetuals are a splendid class of Roses, and masses of them furnish a succession of deliciously fragrant flowers from early summer to mid-winter. Briars and Manetti Stocks for working next season should be panted; Roses may also be planted, as well as hardy trees and shrubs of all kinds.

Tender plants under glass will now require a good deal of attention. Inexperienced amateurs often make great mistakes at this season through improper watering, and “coddling” their plants so as to excite them into weakly growth. No instructions are equal to a little experience in these matters.

To keep plants healthy, they should remain in a state of rest as much as possible during this month, giving no more fire-heat than is sufficient to keep out the frost, giving an abundance of air whenever the state of the weather permits, and watering only when they require it, but then giving sufficient to moisten the whole of the soil in the pot. Bedding plants kept during the winter in pits or frames will need very little water; they should be frequently looked over, and have all the decaying leaves picked off; they should have plenty of air at all favourable opportunities, and should be well covered up at night.

In the Vegetable department there is nothing very urgent to be attended to at present, besides making a sowing of Early Peas and Beans; but in the Fruit department a great deal may be done if the weather is mild. The pruning of fruit trees should be forwarded as much as possible, and fruit trees of all kinds may be planted, though I prefer the autumn season for this latter operation.

As amateurs are often at a loss what varieties of fruit to plant, I will mention a few which, if the soil and situation are at all favourable, will give satisfaction:—KITCHEN APPLES: Lord Suffield, Large Cockpit, Dumelow's Seedling: where there is only room to plant three trees, I strongly recommend these sorts, as they grow freely, and bear most abundantly, seldom failing if the trees are properly managed. The Lord Suffield is one of the earliest kitchen apples, and continues good till November; then the Cockpit is in fine condition until February, and Dumelow's Seedling is good late into June. If there be room for six trees, I would plant two of each of the above-named sorts: and if there be

room for more. then any or all of the following may be added:—Rymer, Wormsley Pippin, Warner's Pippin, Blenheim Pippin, Alexander, Brabant Bellefleur, Bedfordshire Foundling.—TABLE APPLES: Kerry Pippin, King of the Pippins, Cox's Orange Pippin, Ribston Pippin, Golden Reinette, Scarlet Nonpareil. If there be space for more, any of the following may be added:—Yellow Ingestrie, Aromatic Russet, Margil, Court of Wick, Court-Pendu-Plat, Reinette du Canada.—PEARS: Williams' Bonchrétien, Dummore, Beurré Clairgeau, Beurré Diel, Beurré d'Arenberg, Beurré Bosc, Louise Bonne of Jersey, Easter Beurré, Marie Louise.—PLUMS: Rivers' Early Prolific, Mitchelson's, Orleans, Victoria, Pond's Seedling, Jefferson.—CHERRIES: May Duke, Late Duke, Black Heart, Black Eagle, Elton, Bigarreau.—GOOSEBERRIES: Whitesmith, Red Warrington.—CURRANTS: Red Dutch, Raby Castle, White Dutch, Black Naples.—RASPBERRIES: Red Antwerp, Fastolf, Beehive.—STRAWBERRIES: Keens' Seedling, Princess Alice Maude, Dr. Hogg, President, British Queen, Eleanor, Elton.

The amateur will not err in planting some or all of the above-named fruits, if the soil and the situation of the garden be favourable. Most of them are old sorts, but if they have not the charm of novelty to recommend them, they have the good qualities of being free growers, and most abundant bearers.

*Stourton.*

M. SAUL.

### SOME VARIETIES OF THE STOCK.

THAT old-fashioned yet thoroughly popular flower, the Stock, has been well termed a "domestic flower," in that it has strong home associations, for every small garden contains its Gilliflowers. Many cottagers make a pet of the Brompton Stock, and work into very fine strains of it, for this very petting of the flower is certain to become the means of its improvement. The Ten-weeks is another class of Stocks that find favour with the amateur gardener, and during the summer months many an allotment garden round London, as well as in the suburbs of our large provincial cities and towns, are gay with them.—fine double flowers, with a superb beauty and exquisite finish, produced by the intelligent and persistent attention bestowed upon them.

A great portion of the Stock seed sown in this country comes from the Continent, but not all, for there is much saved in England, and round London some very fine strains of Brompton, Ten-weeks, and Intermediate Stocks are saved in large quantities. Most of the Intermediate Stock seed that finds its way into the market is of home growth, and the same may be said of the Brompton Stocks. The collections of each come from the Continent.

A few years ago I met with two splendid strains of Stocks in cultivation in England, wholly of English origin, the seed being saved annually by the grower. They were termed Giant Ten Weeks and Pyramidal Ten Weeks, the latter being of dwarfer growth, but of a more pyramidal habit. Of the former there were two colours, purple and scarlet; the individual blooms were of great

size, and fully double, and the spikes were of enormous size, and, when well grown, from fifteen to eighteen inches in length. They had a nice branching habit, and yielded a continuance of bloom. The purple hue was something very fine indeed, and they were richly fragrant. A long experience of Continental-raised Stocks has never revealed to me anything so fine as these Giant Ten Weeks, especially for exhibition purposes.

Not less attractive or useful are the Pyramidals. Of these there are three distinct colours, viz., scarlet, violet, and azure blue, the latter being the nearest approach to a blue Stock I have ever seen. Many persons to whom I have sent seeds of this variety, and who have grown it, concur in praising highly its beautiful hue of colour. No strain of German Stocks that I have ever seen is more continuous in blooming than these English Pyramidals; they yield a great succession of side-shoots that supply flowers till frost or damp destroys the plants.

There is yet one other good feature about these Stocks, and that is the large per-centage of double flowers the seed produces. It is often urged against English-saved Stocks that they do not produce a sufficient quantity of double flowers. In respect to those under notice, the objection fails in both instances, and those of the readers of *THE FLORIST AND POMOLOGIST* who cultivate Stocks should endeavour by all means to secure some seed of these very fine and striking English strains. Q. U. O.

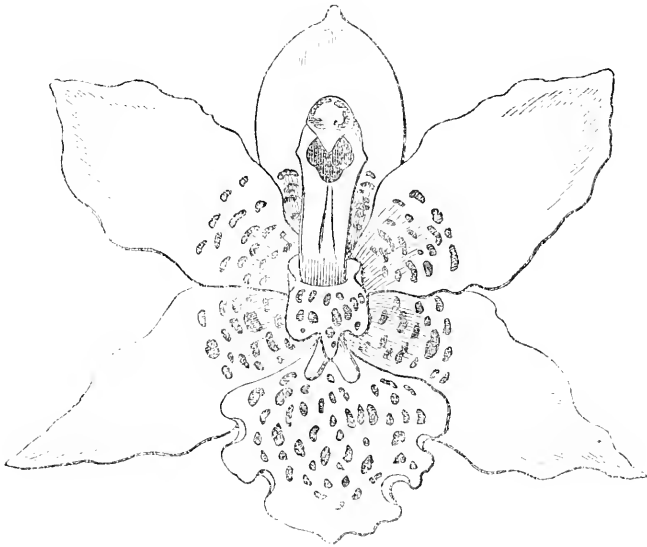
### ODONTOGLOSSUM NEBULOSUM.

**T**HE culture of this fine species is only beginning to be understood. Time was when the few plants that existed in collections in this country were lean, wrinkled, and in every way ill-favoured. The pseudobulbs showed an immaturity betokening constitutional weakness, totally incapacitating the plants for throwing up an inflorescence of a characteristic kind. When to this is added, that an indifferent and incorrect mode of cultivation superinduced an evanescent flowering season, the only consolations remaining for those who may have purchased the plants at high prices, were the rarity of the prize, and the future hope of being able to improve its condition.

Times alter; and in the general onward march, orchid culture, in not a few instances, can count several steps upwards. In the case of this, as of most other Odontoglots, the success may be mainly attributed to the cool cultural system; but with this must be ranked the quantities that have been introduced in modern times, and the consequent greater inducement to undertake a series of contrasting experiments. I had always an idea that moderately cool treatment was the principal point in any calendar of operations, but it is only recently that I have been converted to the notion that greenhouse treatment is decidedly and absolutely the best for *Odontoglossum nebulosum*. I was tardy in believing Mr. Stuart Low when he wrote to me that his collector found quantities of this plant covered with hoar frost, but I resolved that it was a wrinkle worthy of noting and experi-



menting upon. We have dozens of the plant at Meadow Bank growing as cool as possible in summer, and very nearly so in winter, for the thermometer at the minimum has actually during this and last season been so low as 33° Fahr., so that if the hoar frost has not actually reached them, it was hovering in what I should once have considered very dangerous proximity to them. As to their present condition, we have nothing healthier in the place, and they are prolific of successional racemes, yielding from three to eight flowers, according to the kind, or to the vigour of the various specimens. I think I have promulgated in the *Gardeners' Chronicle*, in some of my papers on Orchid Culture, and which at spare moments I intend to continue, that the foliage of *Odontoglossum nebulosum* was



yellowish green, and that it could never be cultivated otherwise. It is a decided mistake, a wrong averment; for we have them—not quite as green as the Scotch leek, but quite as much so as any of the family. Cool treatment has induced this, and has brought such a constitutional vigour as I little dreamed of, and which, if I had seen in any establishment two years ago, would have tickled my fancy, and caused my eyes to twinkle, quite as much as the sight of them did those of Mr. James Veitch, judging from his physiognomy, and noting his exclamation. So much for cool treatment, and its healthful influences.

The varieties are now numerous, the engraving being an excellent representation of what might be called the type. The spotting is confined to the base of the sepals and petals, and extends over the greater portion of the labellum. There are some having pure white sepals and petals and a chocolate-spotted lip on a white ground, such as was once exhibited by Mr. Day at the Royal Horticultural, and

which merits an additional designation to its specific name. It might very appropriately be known as var. *Dayanum*. Unquestionably the most beautiful that has come under my notice is in the choice collection of the Messrs. Veitch. It is spotted regularly over sepals, petals, and labellum, and adds to this charm a very desirable outline, such as a florist would, with all his heart, recommend. I have described this variety in the *Farmer* under the name of var. *pardinum*. These are the three types of *O. nebulosum*, all of them very beautiful, and now that they are come-at-able at a reasonable price, they should be bought by every grower. Nothing we have, but the species in question, unless it be *O. Pescatorei*, can withstand the cold and revel in it. It will live in an atmosphere that would kill *O. Alexandræ* and its allies, and even the plethoric and robust-looking *O. grande*. Amateurs may safely grow this in their little greenhouses, and by all means should give it a good supply of water; they should grow it among two-parts fibry peat and one-part sphagnum, with a good sprinkling of silver sand, crocking the pots moderately.

*Meadow Bank.*

JAMES ANDERSON.

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### VIOLA CORNUTA.

**I**F this beautiful *Viola* I have had two long rows in great beauty during the whole summer, and they remained so up to the middle of September. On the terrace, a combination of this and Beaton's Variegated *Polar-gonium* continued in perfection until late in October. Last year I witnessed it very fine at Huntroyde, in October, quite equal, as to profusion of blossom, to its appearance in spring. It has also been blossoming very finely during the past autumn at Thoresby.

*Osberton.*

E. BENNETT.

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### ORCHARD-HOUSE TREES IN POTS.

**C**IRCUMSTANCES, and not inclination, made me a cultivator of Orchard-house Trees in pots. My preference would have been for trees planted out in the border of the house, whether that were a span-roof, a half-span, or lean-to; and for the early forcing of Peaches and Nectarines, I still think the best house is a lean-to, having the trees fan-trained, planted near the front wall, and trained to wires fixed horizontally about 15in. from the glass. My experience, though extensive, does not extend to forcing trees grown in pots; so that I cannot say whether pot-trees would do for very early work. When my employer wished for an Orchard-house, and for trees grown in pots, I determined, though doubtful as to the result, to manage them to the best of my ability, all the time wishing I could have had them planted out in the borders; but I have now changed my opinion, and I would rather dispense with any of the other houses than with the Orchard-house.

I grow between thirty and forty varieties of Peaches and Nectarines, and I

find both amusement and employment amongst them, from the time the flowers expand in the spring, until the fruit is gathered in the autumn. I have grown fruit in this way—Peaches, Nectarines, Plums, Pears, and Apples—of better quality and larger than by any other means; for instance, an Early Murrey Nectarine had, for its size, a good crop of fruit, which weighed, on an average, 5oz., and measured 8in. in circumference; two Walburton Admirable Peaches weighed 19oz.; a Royal George Peach-tree in a 13in. pot carried 30 fruit, the united weight of which was 10lb. 6oz.; a Bellegarde in the same sized pot had 29 fruit, which weighed 10lb. 13½oz.; and I have had the Salway Peach 10½in. in circumference. Of Pears, I have had two fruit of Beurré Diel which weighed 36½oz.; of General Todtleben, which was turned out of doors to ripen, one fruit weighed 18oz. Williams' Bonechrétien and Louise Bonne of Jersey are also excellent Pears from pot-trees. Plums are very fine grown in this way; and Apples, which will not bear fruit until the trees are large in our light soil, at two years old, bear abundantly in pots. It will, therefore, be seen that Orchard-house Trees in pots may be cultivated with an eye to profit as well as pleasure; and a continued supply of the best fruit may be obtained in this way. I know that practical gardeners are slow to admit the truth of this. Thus, in a weekly contemporary, "F.," writing of Shrubland Park, says: "Mr. Blair's estimate is that of most practical men: pot plants are most useful to fill up with, but I would not like to depend on them for the supply of a family." I depend on them entirely; and in a house 54ft. by 24ft. I manage to grow over fifty varieties of fruit trees in pots; so that there are two sides to this question. Not the least advantage to be derived from the system, is the facility with which an inferior sort may be removed, and a better variety substituted, or a good new one introduced; and there is always a great amount of interest in watching the development of new varieties of fruit.

The form of house which I prefer is the span-roofed, and it ought to be wide enough to contain three rows of trees down the centre, and one row all round the sides. The path should be at least 3ft. wide. Shelves may also be fixed all round, near the bottom of the rafters, and these may be filled with Strawberries, which will just go out of bearing as the out-door crops come in. The Orchard-house here is 54ft. by 24ft., the sides 6ft. high, partly of glass and partly of wooden shutters, fixed on centres, and moved all at once by a rod and lever, which latter moves in a quadrant at the middle of the long rod. The fixing of this rod is rather expensive at first, but it soon pays for itself. The top lights are also opened by a rod and chain, and open all at once in the same manner. Three pillars on each side support the roof; one pot-vine is taken up each, and trained to arch over the Peaches and Nectarines, and from these pot-vines I have cut bunches of Black Hamburgh grapes weighing 2lb. each. To an ardent lover of fruit culture such a house is always full of interest.

I may add that I cultivate two rows of Strawberries on the shelves previously

alluded to, and I generally commence to gather fruit from them after the middle of May. I could have the fruit earlier by growing Black Prince or some such early variety; but we have early strawberries in the forcing-house, and do not therefore grow very early sorts in this house, only the most approved.

A house such as this, with high sides, is not adapted for small trees; we have therefore erected a lean-to 38ft. by 6ft., which gives space for one row of young trees in front, while it allows of bearing trees being trained to the back wall. The young trees are principally "maidens," which are lifted in autumn from the open ground, and potted for the most part in 10in. pots. These bear a crop of fruit the next season, and then replace a few of the oldest and least useful of the trees, which I throw away each year.

*Loxford Hall, Iford.*

J. DOUGLAS.

#### NOVELTIES, ETC., AT FLOWER SHOWS.

**M**OST interesting and highly valuable as winter decorative plants are the *Hybrid Solanums*, of which fine groups were staged at the meeting of the Floral Committee on December 15th by Mr. Weatherill, of Finchley, and Mr. B. S. Williams, of Holloway, to each of whom a special certificate was awarded. These new forms originated with Mr. Weatherill, and were the result of a most successful cross between *S. Capsicastrum hybridum* and *S. Pseudo-Capsicum*. With a dwarf habit, they combine the vigorous growth of the latter, and produce such a profusion of highly-coloured fruit as to become most valuable for the purpose of winter decoration. They grow from 18in. to 24in. in height in the first season, and have a dense compact freely-branched habit of growth. The leaves vary in breadth and length, and the form and size of the fruits also differ, some being quite round, others oval or olive-shaped, while others again are intermediate. Some plants produce the fruits in clusters of from four or five to seven or eight, which much enhances their decorative value. Though the different varieties may not be reproduced true from seed, there is such a general similarity, that seedling plants are certain to be quite worthy of cultivation; and, like the parents, the distinct forms may be increased by cuttings. The vigour of these plants suggests that they might probably be grown as small standards, resembling miniature orange trees, as is sometimes done with *S. Pseudo-Capsicum*. Mr. Peel, of Cambridge House Gardens, Twickenham, grows remarkably fine samples of these standard Solanums, and it would be of interest to have his method of culture explained. On the principle that we should yield honour where honour is due, it should be stated that Mr. P. M'Arthur, of the Edgware Road, was the successful operator in obtaining the first break from the older forms; but, failing to continue the work, it has been carried to such a successful issue by other hands.

A first-class certificate was awarded at this meeting to a magnificent single-flowered form of Chinese Primrose, named *Wonderful*, also shown by Mr. Weatherill.

The individual flowers were of great size, and of massive proportions, some of the pips having measured fully  $2\frac{1}{4}$  in. in diameter, the colour white, edged and tinted with rose, finely fringed, and set off by a large showy yellow centre. If this fine variety can be perpetuated by seed, it will become very popular. In a box of cut *Camellias* sent to this meeting by Mr. Allen, gardener to Captain Glegg, of Withington Hall, Cheshire, was a fine form of *C. imbricatu variegata*, the flowers being handsomely and evenly blotched with white; also grand blooms of *Marchioness of Exeter*, a large and striking rosy salmon flower. R. D.

### INSECTS INJURIOUS TO PEARS.

HERE are two Insects which cause much destruction to the fruit and foliage of Pear Trees, namely, the Pear-Tree Oyster Scale (*Aspidiotus ostreaformis*) and the Pear-Tree Saw Fly (*Selandria athiops*). They are amongst the worst enemies with which the Gardener has to contend. The Scale attaches itself in the first instance to the bark, and afterwards as the young fruit progresses it fastens itself upon it, and piercing the tender skin, appears to feed upon the juices, causing the more tender-skinned varieties to develop a number of knobby, misshapen protuberances, which render the fruit utterly worthless. There are very few varieties which are thick-skinned enough to resist these attacks. There are, however, a few which appear to suffer comparatively little in the fruit, although the Scale may abound on the wood. The Easter Beurré may be quoted as an example, and I find that it and thick-skinned Pears of that class are often exempt from attack, when the thinner-skinned varieties, such as Marie Louise, Zéphirin Grégoire, Beurré Clairgeau, and such like kinds, although the several sorts may be growing on the same tree, are liable to be rendered both unsightly and uneatable.

The grub of the Saw Fly, on the other hand, feeds on the surface of the foliage, which is thus checked in its functions at a very critical period of the growth of the fruit. We all know that without healthy foliage there cannot be healthy fruit: whatever, therefore, interferes with the action of the one reacts upon the other; and just when the fruit is swelling off, this very destructive slimy grub commences to destroy the foliage, and many a fair promise is thus as it were nipped in the bud, and the power of producing a perfect development destroyed. I believe the best remedy for this pest to be hand-picking at the time when the grubs become large enough to render their ravages apparent. This generally happens early in July, and continues through that and the two following months. In October they spin their little cocoons and become pupæ; and, therefore, in order to reduce hand-picking to a minimum, the foliage should all be collected and burnt at the fall of the leaf, and the surface soil around the base of the trees should be frequently stirred about, particularly during dry frosty weather in the winter. After pruning and nailing in, the trees should be dressed, as I will presently advise, for the Scale,

and the same remedy will act as a corrective of the Saw Fly, but not a cure, because the pupæ may be hatched in other parts of the garden, and the fly will find its way to the foliage of the dressed trees.

The dressing alluded to was applied by me to some Pear Trees two years ago, by way of experiment, and attended with such good results in this individual case, that I thought it would be well if it were more generally acted upon. It is no new idea; only an old one slightly modified and carefully carried out. The occasion was this. Many of my Peach Trees were badly infested with red spider and mildew in 1866, and early in the spring of 1867 I dissolved 10lb. of Gishurst Compound in boiling water and put it into a large tub; to this was added about 30 gallons of water, and this was all brought to the consistency of very thick paint by the admixture of about equal proportions of soot, lime, and blue clay finely tempered, all of which were passed through an eighth of an inch sieve, to keep back any coarse granular substances. The whole, when mixed well together, dried of a fine neutral tint not at all displeasing to the eye. I found that to paint over the branches of the Peach Trees one by one would take up more time than I had at command. I therefore determined to proceed in a much more summary manner, and waited until the trees were nailed in to the wall, when, with a long-haired whitewash brush, we proceeded to paint over both the wall and the branches as thickly as the mixture could be got to lay on. As there was no pulling the branches about afterwards, we were able to lay it on very thick, and it stuck fast too.

When the Peaches were done there, was a good quantity of the dressing left; this I proceeded to apply in the same wholesale manner to some infested Pear Trees, from which, for a few previous years, not 5 per cent. of the fruit was fit to send to table. The results in both cases quite satisfied me of the efficacy of such a dressing. The Peaches were entirely free from both red spider and mildew, and the foliage being healthy, they ripened a good crop of fine fruit. The Pears also were very much improved as to their health and appearance, and the fruit came clear-skinned, and the greater proportion useful. The present season (1868) I contented myself with a good syringing with Gishurst Compound of about 6oz. to the gallon, and the good effects were well sustained. In the Pears especially there was a large crop of fair-sized, good fruit.

*Redleaf.*

JOHN COX.

#### ABUTILON THOMPSONI.

INTRODUCED from Jamaica—such is Messrs. Veitch's brief statement of the history of this very ornamental plant, which is evidently a sport from *Abutilon striatum*, a species inhabiting the mountains of Brazil, but now naturalized in Jamaica. Like its parent, it has been held in some disrepute from its true character not being at first understood. *Abutilon striatum* itself, when introduced, was grown in the stove, and soon became set down as

a weedy spindly plant, notwithstanding its pretty flowers, but when grown in a greenhouse its sturdy hardy and ornamental aspect reversed this unfavourable verdict. It is indeed recorded that at Clapham it has survived in the open air in winter, uninjured. Similar misconception prevailed in respect to *Abutilon*



Thompsoni, the utility of which was not even suspected till it was planted out in the open garden for the summer, as an experiment, Here, instead of the dingy, blotched leaves which had been generally seen under house culture, and which failed to procure it many admirers, it became quite brilliant in its mottled livery of green and gold and white, so much so that it must be pronounced a first-rate

sub-tropical plant, attaining in this character during the summer season a height and diameter of about a couple of feet.

The accompanying figure, which the Messrs. Veitch have kindly placed at our disposal, shows the general aspect of the plant and its variegation, the markings, it must be remembered, consisting of patches of creamy white, of pale yellow, and of clear bright green, in abrupt contiguity and grotesque dissimilarity.

The plant should be wintered in an intermediate house, and, as an ornamental pot plant, is best adapted for a warm greenhouse during the summer. It requires abundance of light, and a rich soil to bring out its gay and grotesque colouring to advantage.

T. M.

### SHALL WE PLANT ONE VINE TO A HOUSE?

SOME persons believe that a house occupied by one vine only will be more productive than if planted with several in the usual way; but though there may be good grounds for such an opinion, it may be safer to pursue the old plan. I pass by the famous Vine at Hampton Court, to notice another which better illustrates the subject. Like that, it was a Black Ham-burgh, and was planted along with other kinds in the centre of the house. Afterwards, two shoots were led from it right and left along the front, and from these other shoots were trained upwards, one to each light, these gradually taking the places of the other Vines. It was pruned on the short-spur plan, and was very productive until the stem was injured by the severe frost of 1860-1, when the vigorous Vine came to an end, and the house had to be replenished by young ones, by which two years' crops were lost. If the house had been filled with several Vines, there would have been less risk of the smaller stems being injured by the expansion of the frozen winter store of sap. In opposition to this, it may be argued that such a result would not have happened if the stem had been protected by straw bands. True, but it is hardly possible to guard against accidents at all times.

Barring accidents, a house filled with a single thriving Vine, properly managed, will certainly be more productive than if filled with several crowded too closely together. Some, however, consider that the border for only one Vine should be larger, but surely the space required for the roots of several ought to be enough for one! Certainly the more room for the roots the better; but the chief advantage arises from the top or branches of the one Vine having more room for extension. The importance of this matter in the growth of fruit trees and other plants is often overlooked. To be convinced of this one has only to look at a shorn or clipped fence, say of thorn, in which some of the plants, from being allowed their freedom, soon become large and fruitful trees or bushes, with thick stems, while the others, which are shorn and crowded, remain thin, diminutive, and fruitless. This proves the great influence of the tops of trees on the growth




or extension of their roots. Vine borders are often blamed for unsatisfactory results, when the real fault consists rather in the stems and leaves being crowded too closely together. Under such conditions they lose much of the influence of both light and air, on which the production of abundant crops depends.

*Cossey Park, Norwich.*

J. WIGHTON.

## MONTHLY CHRONICLE.

ELDOM have we a more important fact to chronicle than this, that a Horticultural Congress is to be held at Manchester in connection with the Royal Horticultural Society's show in July next. The advantages likely to accrue to gardeners and gardening from such a meeting are obvious, and we can only urge that it must be carried out on broad and liberal principles, in order that it may be successful, and that it may become the forerunner of an annual gathering of scientific and practical horticulturists. Mr. Thomas Moore, with whom the idea originated, will act as Secretary.

— THE great Flower Shows of the Metropolis are announced to take place as follows:—Those of the Royal Botanic Society on May 19 and 20, and June 30 and July 1, each of two days' duration. That of the Royal Horticultural Society on June 2 and 3, and the great Rose Show on June 29. To these must be added the Spring Shows of the Royal Botanic Society on March 16 and 17, and April 27 and 28, and the following Spring and Country Shows of the Royal Horticultural Society—namely, March 13 for Hyacinths, &c.; April 17 for Azaleas, &c.; May 8 for Pot Roses, &c.; May 22 for New Plants and Variegated Pelargoniums; and July 19 to 21, the Provincial Show at Manchester. The National Show of the Manchester Horticultural Society will be held during the Whitsun week.

— AN International Horticultural and Floricultural Exhibition is to be held in Hamburg at the commencement of September, 1869. The subjects of exhibition are to be arranged in three classes: Cultivated vegetables, fruits, and flowers; Garden buildings and appliances; and Produce not included under the preceding divisions. A site has been secured on high ground, commanding a picturesque view of the Elbe and its shipping. Communications are to be addressed to Dr. Donnenberg and Dr. Götze, Advocates, Hohe Bleichen 16, Hamburg.

— THE Metropolitan Board of Works has determined on planting the Thames Embankment, and the work has already commenced under the superintendence of Mr. McKenzie, of Alexandra Park.

— IN noticing the Floral Meeting of September 1st, it should have been mentioned that a seedling *Dahlia*, named *John Dix*, a large crimson-maroon flower, of great depth, was awarded a first-class certificate; as also at the Crystal Palace on August 25th. This variety was shown by Mr. Hobbs, of Bristol, but is now in the hands of Mr. Keynes, of Salisbury.

— POMEGRANATES have this season ripened in the open air at Dropmore. The fruits were borne by a fine old plant of the double scarlet variety, which flowers most profusely every season. A plant of the single variety, near this, bears no fruit; and it has before been observed that the double variety is the freest to bear. The fruits themselves are more ornamental and curious than useful. Pomegranates have also ripened in the garden of J. B. Danbury, Esq., of Ryde, on a standard tree, in the open garden.

— THE influence of the Stock on the Graft extends both to the size and flavour of the produce. This has been recently illustrated by specimens of the

Bess Pool Apple, grown by J. Hames, Esq., of Leicester. A sample of smaller fruit was the produce of scions grafted on the Crab Stock; while a sample of larger and much finer fruit was grown from scions of the former tree, again grafted on the Pearmain. Mr. Cox, of Redleaf, has fruited the Winter Nelis Pear from scions grafted on the Chaumontel. The fruit was thereby enlarged, and while in some the fine buttery texture was supplanted by the gritty texture of the Chaumontel, in others on the same tree both flavour and texture were unaffected.

— **THE** Warming of Small Greenhouses and Conservatories attached to villa residences is often found difficult, but Mr. Trotman, of Isleworth, has had in use for some years a gas stove, which is quite successful. It consists of a cylinder of zinc, the outer portion of which forms a boiler, to which flow and return pipes can easily be fitted, while the centre is hollow, and serves to convey the heat from a ring of gas jets placed at the base. The foul air is carried off by a pipe which serves to diffuse heat through the house. It is both inexpensive and convenient.

— **F**OWLER'S Insecticide is an effectual remedy against many of the insect pests of plants. Used at the strength recommended by the makers—namely, four ounces to the gallon—it effectually destroys white and brown scale, thrips, red spider, and the green and black fly. It does not injure the plants.

### Obituary.

— **DR.** CARL FRIEDRICH PHILIPP VON MARTIUS died at Munich on the 13th ult., at the age of 75. He was born at Erlangen, and, after studying in the university of that city, travelled for some years in Brazil, the botany of which country he has richly illustrated in his *Genera et Species Palmarum, Nova Genera et Species Plantarum, Icones Plantarum Cryptogamicarum*, &c. He has long held the post of Director of the Botanic Garden, and Professor of Botany in the University of Munich.

— **DR.** EDWARD POEPPIG, who travelled in Chili, Peru, the Amazon country, &c., from 1827 to 1833, and who, in conjunction with Endlicher, published the botanical results of his journey in the *Nova Genera et Species Plantarum quas in regno Chilensi, Peruviano*, &c.,—a valuable work, illustrated with 300 plates of new plants,—died on the 4th ult. He was born at Plauen, July 16, 1798, and was consequently in his 71st year.

— **DR.** SCHNIZLEIN, Professor of Botany, and Director of the Botanic Garden at Erlangen, died on the 24th of October last. He was well known to botanists by his valuable illustrations of the natural families of plants published under the title of *Iconographia Familiarum Naturalium regni vegetabilis*.

— **DR.** ECKLON, whose name is familiar to all botanists, from the rich collections of Cape plants sent by him to Europe, either alone or in conjunction with M. Zeyher, has recently died at Cape Town, in his 73rd year. He was born at Apenrade, in the Duchy of Schleswig, December 17, 1795.

— **MR.** JOHN WATERER, nurseryman, of Bagshot, died on the 2nd of November last, at the age of 85. For the last 20 years Mr. Waterer has contributed the annual display of Rhododendrons to the Royal Botanic Society.

— **MR.** WILLIAM DRUMMOND, the senior partner in the well-known firm of Drummond and Son, seedsmen, has recently died at Stirling. He was born in 1793 at Bannockburn, and was consequently in his 75th year.





## ALLAMANDA NOBILIS.

WITH AN ILLUSTRATION.

**I**F the species of Allamanda, which rank amongst the most gorgeous of stove-climbers, that which we now figure is certainly one of the finest—the noblest of all those yet known in respect to its individual flowers, and so far as experience has gone, the equal of the very best of its congeners in respect to prolificacy of blossom. It was introduced by Mr. W. Bull, of Chelsea, from the Rio Branco, in Brazil, and flowered for the first time in this country in the autumn of 1867. The flowers are of a pure bright yellow, rather deeper tinted in the throat, but without streaks or any other markings; they measure from four to five inches across, and have a decided aromatic magnolia-like perfume; they are, moreover, of a full circular outline, quite different from that of the other cultivated species, with the exception of *A. grandiflora*, from which the plant differs in its scandent habit of growth. These features, together with the membranous hairy leaves, the pubescent calyx, and pubescent exterior surface of the corolla, and, moreover, the dissimilar shape of the latter, mark it as distinct.

Our figure was prepared in July last from a plant which bloomed in the nursery of the Messrs. Glendinning and Sons, of Chiswick, from whom we learn that the plant in question, though it bore no fewer than twelve trusses, each truss showing from ten to sixteen flowers, had only been grafted about four months previous. This one fact is of itself sufficient to indicate its free-flowering qualities, while of its size, form, and beautiful colour, a very accurate estimate may be formed from Mr. Fitch's excellent sketch, limited though it be by the size of our page.

M.

## THE NEW PLANTS OF THE PAST SEASON.

**A**NNO DOMINI 1868, though it may not be credited with such startling novelties as some of its predecessors have been, will yet occupy no mean position in the annals of Horticulture, in respect either to the number or the quality of the New Plants it has ushered into our gardens. This proposition we shall now endeavour to support by a very brief reference to some of the most remarkable of the plants themselves.

We first call up the group of hardy trees, shrubs, and woody climbers, and among them we find some choice acquisitions. First and foremost comes a golden Oak, called *Quercus Robur Concordia*, which is much more brilliantly coloured than the var. called *aurea*, previously known, the sinuate leaves being of a rich golden tint; this novelty has turned up in the Belgian nurseries. A fine contrast to it is supplied by the *Acer platanoides rubrum*, grown in Russia and Germany, and whose broad palmatisected leaves are of a deep blood-red colour. The evergreen *Retinospora filicoides* is a graceful hardy shrub from Japan, remarkable for the fern-like character of its ramifications; while the *Tamarix plumosa* is a deciduous bush, so extremely ramified and feather-like in its spray as to have

acquired, in the French gardens, the epithet of *Marabout*. Of hardy creepers, adapted for covering walls and buildings, we have the Chinese *Ampelopsis dissecta*, and the Japanese *Ampelopsis tricuspidata*, *alias* *Veitchii*, both of slender but rapid growth, the former with palmatisected leaves, having pinnatifid segments, the latter with the leaves simple or three-lobed, the leaves changing to a deep red towards autumn. *Ampelopsis japonica* has broader leaves, which assume in dying a brilliant, rich orange-red tint. *Vitis heterophylla humulifolia*, a deciduous Japanese plant, has three-lobed or five-lobed leaves, and its insignificant flowers are succeeded by cymose clusters of pretty pale blue berries.

Of the novelties of the hardy herbaceous class, we give precedence to *Spiraea palmata*, a Japan species, whose bright red stems, palmately lobed serrated leaves, and large heads of deep crimson flowers, render it grandly conspicuous. In the Transylvanian *Campanula turbinata*, a dwarf erect-growing species, with large, deep purple, bell-shaped blossoms; and in the remarkably floriferous *Campanula isophylla*, from the Apennines, with its smaller deeply-cut greyish-blue blossoms and bushy branching habit, we have two very distinct and really handsome species; while the *Doroceras hygrometrica*, a dwarf herb from Northern China, with the aspect of *Ramondia*, and purple flowers somewhat resembling those of violets, introduced to the French gardens, promises to be at once hardy and handsome. The *Erythronium giganteum* (just reintroduced) is also a plant of mark. Of hardy bulbs, *Lilium Wilsoni* (*L. Thunbergianum pardinum* of our plate), a Japanese introduction, with large orange-red gold-banded black-spotted flowers, produced in great branched umbels, may be pronounced one of the finest species yet known. New annuals are represented by *Collinsia corymbosa*, a Mexican plant, of dwarf growth, whose flowers bear a grey-blue upper and white lower lip; and by *Leavenworthia aurea*, a dwarf Texan crucifer with rosy lilac yellow-eyed flowers, which may be useful for sowing in masses.

Half-hardy flower-garden plants have received a valuable acquisition in the *Gladiolus cruentus*, imported from Natal, a strikingly beautiful plant, with almost regular bell-shaped bright red flowers, having peculiar white markings on the two lateral segments of the lower lip.

We have figured some of the acquisitions at the modern subtropical garden. *Abutilon Thompsoni* proved startlingly beautiful, with its grotesque motley markings of gold and white and green, when planted out in rich soil, and well exposed to light. *Iresine Lindenii* promises to eclipse the older and better known *I. Herbstii*, and has, moreover, this advantage, that its rich blood-red leaves are flat, and not puckered up as in that. *Alternanthera amabilis* promises to be the best of its family, being richly coloured with an intermixture of rose and orange tints, and of a more robust habit than those previously grown. And finally, a new hybrid *Echeveria*, *E. glaucop-metallica*, secures by the union a greatly augmented size, superadded to the spatulate leaves, glaucous colour,

and rosulate habit of *E. glauca*. We ought here to mention incidentally the beautiful new forms of golden-leaved *Coleus*, which, while probably adapted for outdoor summer use, are certainly grand conservatory decorative plants.

The Brazilian *Passiflora cincinnata*, with its curious ringletted purple flowers, is a showy, evergreen greenhouse climber, well worth growing. The variegated *Cordyline Guilfoylei*, and both the green and variegated forms of the narrow-leaved New Zealand *Phormium Colensoi*, will also be useful ornamental plants for the greenhouse; as will the new hybrid *Solanums*, *S. Pseudo-Capsicum rigidum* and *S. Pseudo-Capsicum Weatherillii*, to which we have previously referred.

Turning to Ferns, the Maidenhairs alone furnish novelties enough to render the year memorable. Thus, *Adiantum amabile* and *A. decorum*, both much divided in their fronds, are amongst the most elegant and graceful of their race; while *A. Veitchianum*, another charming Fern of a distinct type of beauty, is remarkable rather for its well-proportioned and beautifully-chiselled outline. These are all Peruvian. *Cyathea Hookeri*, a most interesting miniature Ceylon stove Tree Fern, is an acquisition of no mean order of merit. We have also to add two grand suffruticose Mexican *Cibotiums*, named *C. regale* and *C. spectabile*. Among hardy Ferns occurs the handsomest of all British forms, *Polystichum angulare Pateyi*, a Dorsetshire variety, best described as the analogue amongst *Polystichums* of *Polypodium cambricum*, only that from the larger size of the fronds and the multiplicity of their parts it possesses a degree of beauty which that handsome Fern fails to typify; the whole frond is a densely crowded mass of the most finely cut divisions; unfortunately it is sterile.

Orchids have yielded a few choice gems. First comes *Dendrobium crystallinum*, a Burmese species, bright and beautiful as *D. Wardianum*. Then come—each a precious acquisition in its way—*Saccolabium Huttoni*, with rosy-purple flowers from Java; *Cœlogyne Reichenbachiana*, a new and very handsome *Pleione*, from Moulmein, with rosy-lilac flowers, having the white fringed lip marked with bold magenta-coloured lines; *Thunia Bensoniæ*, a terrestrial species, from Rangoon, with large bright rosy-purple flowers; the true *Vanda insignis*, from Java, a lovely species, which may be known by its pinkish-lilac lip being rounded and hollowed like a scallop shell; the Peruvian *Oncidium macranthum*, remarkable for its large and nearly equal, leathery, tawny-yellow or clear yellow flowers; the Brazilian *Oncidium Rogersii*, with its immense flat yellow lip, the largest and the brightest-coloured yet known; together with *Cattleya speciosissima Lowii*, *Lælia purpurata Nelisii*, and *Lælia anceps Dawsoni*, all exquisite varieties of their respective species. *Anæctochilus Dawsonianus*, introduced from the Malay Archipelago, deserves mention as being one of the most vigorous-growing of that interesting group, and as having very handsomely marked leaves.

Stove plants are generally numerous. Almost coming within the gains of the year is the *Allamanda nobilis*, which we figure, a species which, if admitted, might have contended for the first place with the noble *Lasiandra macrantha*, from Brazil,

whose rich and ample purple blossoms seem to be borne as freely in winter as in summer. *Ixora amabilis* and *I. Dixiana*, both of garden origin, and both bearing salmony-orange flowers, are decided acquisitions. Another beautiful plant is the *Aphelandra nitens* of New Grenada, with its polished leaves and erect spikes of vermilion flowers; while *Dicranthera macrophylla*, a tropical African Acanthad, gives us long spikes of bell-shaped rosy-purple flowers. *Eranthemum elegans* is another acquisition, on account of its continuous-blooming spikes of white spotted-lipped flowers. *Tydaea Lindeniana* is a very distinct South American species, with silvery striped leaves, and short-tubed white flowers, having a yellow throat and violet-coloured stains on the lower lip. Finally, M. Van Houtte's hybrid forms of *Plectopoma*, remarkable for their large flowers, brilliant colours, and profuse inflorescence, are grand additions to the decorative Gesnerads.

The ornamental-leaved group of stove plants is one to which large additions are constantly being made. The most important now to be recorded are the numerous, varied, and beautiful forms of *Codiaeum* (*Croton*) *variegatum*, sent to England from the South Sea Islands by Mr. J. G. Veitch. *C. Veitchii* is one of the finest. Two continental *Marantas*, *virginalis* and *Baraquinii*, both Brazilian, with broad leaves, marked with silvery bands, are exceedingly handsome. Among Palms, which are more fully attracting, as they deserve, the attention of gardeners, a beautiful dwarf species, from Central America, which bears the name of *Geonoma Seemanni*, is remarkable for its uniform, plicate, bilobed leaves, the smallest of which, an inch or two long, are exact miniatures of the much larger ones developed on the older plants.

Though we have but lightly skimmed over the surface of the treasures of 1868, it must now be evident that the annals of the year, as regards New Plants, are far from being a blank, far from being unimportant. M.

### GROWING NEW GRAPES FOR SHOW.

IT has been my custom, for many years, to prove new kinds of Grapes by inarching them on established healthy vines. The wrinkle may possibly be of some use to intending exhibitors. I have found that to inarch a strong fruiting-rod on a healthy established vine, makes a wonderful difference in the size of the bunches and berries, compared with the produce of one of the same age and strength, if left to fruit in a pot. By inarching a young new vine on an old one, we get a strong fruiting-rod for next year, and if the sort turns out first-rate, by leaving a few bunches on the young rod, one may secure fine show grapes the first year it is sent out. The bunches will likewise be compact, and furnished with large berries, in consequence of their increased nutriment; and the colour will be first-rate, as it is well known that the best-coloured grapes are produced near the ventilators in the front of vineries. My object at first in inarching new vines on old ones was the sooner to prove their merits or demerits; and if they were not up to the standard, out they went. The process of inarching



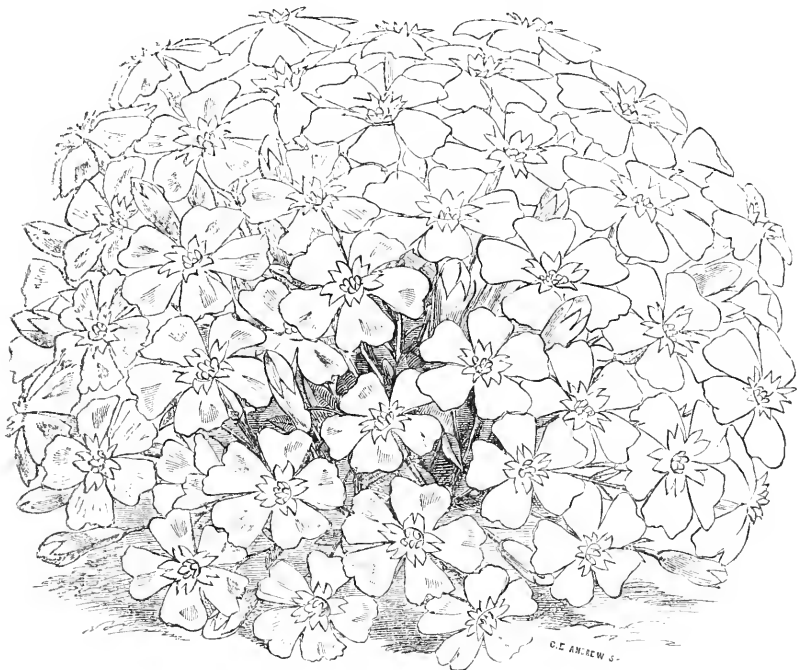
vines in pots on to the old-established ones, is very simple. The only important point to be observed is, to have the rod of the pot-vine in the same stage of growth as that of the old one, so as to prevent bleeding. The operation can be done with safety when they have each—that is, both stock and scion—made shoots of from two to three inches in length.

*Welbeck.*

WILLIAM TILLERY.

### LYCHNIS LAGASCÆ.

**R**OCK PLANTS, which are very properly engaging more and more of the attention of cultivators, will receive a choice accession in the pretty species of which Mr. Fitch has given so good a representation in the accompanying wood-cut. It is a low, glaucous, tufted, perennial herb, with densely dichotomous stems, two to four inches long, having the lower



leaves linear obtuse, the upper lanceolate, and the intermediate ones ovate-lanceolate; while every ramification is terminated by a showy, rose-coloured flower, as large as, and not unlike those of, *Silene pendula*.

Dr. Hooker well observes that “this is at once one of the most beautiful and most rare of the Rock plants now under cultivation in England, its native locality being confined to a very narrow belt of the subalpine region of the

North-West Pyrenees ; whilst for beauty it is difficult to conceive anything more sparkling, and at the same time delicate, than the rose-coloured, white-eyed blossoms. The tendency of the plant is to form a hemispherical mass." The generic names of *Petrocotis* and *Silenopsis* have been applied to it. M.

### ONIONS AND LEEKS FOR EXHIBITION.

THE vicinity of Manchester has of late become famous for the growth of large Onions. Last season, at Ashton-under-Lyne, several bulbs were exhibited which weighed over 2lb. each, the finest English-grown onions I ever saw. A short account of the method adopted in growing them may prove interesting to many of your readers, and may induce others to try it in localities better adapted for the purpose.

The general system is to sow the seed in pans or boxes early in February, to place them in a gentle heat, to transplant them as soon as they will permit separately into small pots, and to get them fairly established and hardened off by the latter end of April, or early in May. Previous to this, a bed is prepared to receive the young plants ; it is composed of good old manure, and coarse sand and soil incorporated, and is about 18 in. deep. Into this the plants are carefully turned out of the pots, at regular intervals of 8 or 10 in. apart. Great care is taken during their growth to prevent the tops from being broken, for which purpose they are guarded by soft cords and stakes, placed at regular intervals, so as to keep every leaf in an upright position. In some instances, each plant is separately staked, the leaves being made to assume the form of a fan. The onions so treated grow to an enormous size. I lately saw six red ones, which weighed considerably over 1lb. each.

The growers are very particular in saving their own seed, and do not depend upon seedsmen for it. They easily dispose of it at 1s. per head ; and such is the anxiety to obtain it, that a friend in Scotland, to whom I sent a pinch last season, wrote the other day that he would willingly pay 2s. for a quarter of an ounce,—he having grown from that sent him six onions to the weight of 9lb. In this locality, where in general we have such a humid atmosphere, it is a difficult matter to raise seed in the open air. The general method adopted is to plant in large pots in February or March, and after the heads have bloomed to place them in greenhouses or to cover with hand-glasses. During September many exhibitions take place, and a committee is appointed to go round and examine the onions before they are taken up. They are brought to the exhibition table, washed, with tops and roots on, and one man is appointed to cut the tops by rule to the length of  $4\frac{1}{2}$  in. ; they are then transferred to the scale, and the heaviest wins, regardless of form. The Tripoli first (these are sown in August), then the Reds, and, thirdly, the Whites. The prizes in general amount to several pounds. It is interesting to watch the proceedings, the excitement being greater than is generally seen at Cottagers' Shows. Dahlias,

Gladioli, Roses, &c., with specimens of Apples and Pears, are also exhibited at these shows; besides which Celery is sometimes introduced as a secondary feature, and many very creditable specimens are staged. At one show at Ashton, I saw last season three fruit of Uvedale's St. Germain Pear, which weighed 6lb. 6oz. Celery, not trimmed, reaches from 16lb. to 17lb.

Leeks are not cultivated at Ashton. The cottagers around Bolton, however, take much interest in them, and at their September shows many fine specimens are exhibited, though none so large as those shown in Scotland; nevertheless, sometimes the flag measures as much as 8 in. in width. In Scotland they are shown in threes, and have exceeded 9lb. weight. The friend previously alluded to says he has just lifted one 10 in. in circumference. Henry's Hybrid, Dobbie's Champion, Poussey's Giant, and Stenhouse's Leek, all improvements on London Flag and the Musselburgh, have each their admirers. These require to be treated in the same way as the onion, only in planting they must be put in a trench like celery, and earth must be drawn up to them as they advance. They require abundance of manure, and should know no stint of liquid during their growth; they cannot well be overdone, for they are gross feeders. The prizes offered for them are insignificant compared to those given for onions, and do not afford sufficient encouragement for the labour and expense attendant on their culture. As a vegetable the leek is not so much esteemed as the onion, yet it is a good substitute for it in many ways. Leeks are good boiled or stewed, and I have tried them fried, and consider them very good. They are esteemed as a necessary adjunct to the "kail pot," so much used in this locality. It is really astonishing to see the quantity of "pot yerbs" disposed of in Manchester market during the winter season. Those who have never tried the culture of large leeks will find it very interesting to see what can be done by a little extra labour.

Winton.

JOHN WALKER.

### ANTHURIUM SCHERZERIANUM.

**F**EW stove plants of recent introduction are more deserving than this of extensive cultivation. The inflorescence is strikingly beautiful, and remains long in perfection. I have a small plant which began to flower in July last; this has continued blooming ever since, and I cannot tell how much longer it may continue. It seems to be very easily cultivated, and most gardeners will admit this to be a great point in its favour. I grow it in a cool stove, the temperature of which ranges about 55° during the winter months, and the plant has never had any bottom-heat since it was purchased, but stands on an inverted flower-pot, which shows it off to the best advantage. The compost used for it consists of two parts turfy peat of an open sandy nature, such as Azaleas thrive in, and one part sphagnum moss, with a few pieces of broken charcoal added. In potting, the plant is kept well up, so that the compost may be raised in the form of a mound in the pot, and plenty of drainage is used. I fill the pot half full of broken crocks. As regards watering, it

requires to be kept moderately moist. using rain-water which has been standing in a water-pot near the hot-water pipes, or on them if possible. The water used ought always to be warmer than the atmosphere; I use it at about 75° or 80°, but an experienced cultivator only requires to dip his finger in the water to know whether it is of the required temperature.

The plant has beautiful and effective dark green leaves, which can occasionally, and without difficulty, be sponged over as the best means to free it from dust. The brilliant scarlet spathes, with their curiously twisted worm-like spadices, mark it out as a species which will long be retained in cultivation.

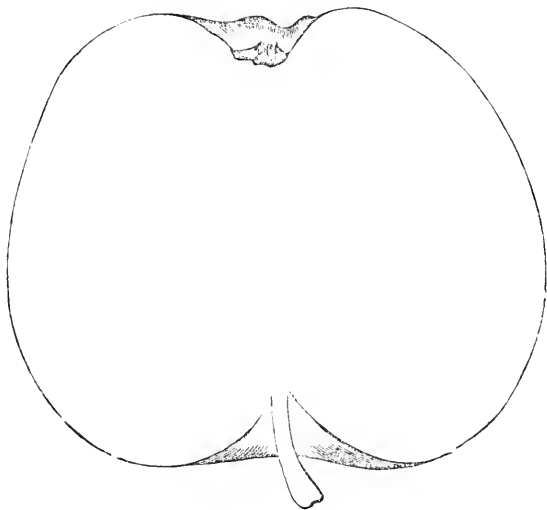
*Lorford Hall.*

J. DOUGLAS.

### DREDGE'S FAME APPLE.

**D**REDGE'S Fame, an Apple which I have closely watched for the last ten or a dozen years, has proved with me such a constant and good cropper, and is possessed of so many other excellent qualities, that I do not hesitate thus prominently to recommend it.

In habit the tree has a neat, bushy, compact, tree-like appearance, when grown with a single stem. The growth is dense, and the young wood stiff,



strong, and very short-jointed. The flowers are borne upon very short stalks in dense bunches, always plentifully, and generally a few days later than such sorts as Waltham Abbey Seedling, and Cox's Orange Pippin. The tree has one very distinct and commendable peculiarity, which is, that it very rarely fails to set a superabundant crop of healthy fruit, and always succeeds in "thinning out" its own crop to the required number. The fruits are uniformly large, clear-skinned, and firm, keeping well up to March.

As a cooking or culinary apple it is, I believe, generally esteemed, whilst when fully ripe, and when the clear bright streaks of crimson come out upon its broad sunny side, it makes a very noble dessert apple. The flavour is at its best brisk and aromatic, with a good supply of sugary juice. Its proper season is at the festive Christmas and New-Year time, when such an apple is really valuable. The fruit has an irregular, furrowed outline, and is variable in form. One peculiarity is, that those of them which are most decidedly Pearmain-shaped are always the brightest, and most densely striped. It will be seen from these brief particulars, that this is essentially an amateurs' variety, to be grown where there is but limited space for tree planting. The illustration sufficiently explains the form and general size of the fruit of this variety.

*Digswell.*

WILLIAM EARLEY.

### CULTURE OF GREENHOUSE STATICES.

**A**MONGST these we have some of the most serviceable decorative Plants in cultivation. Take, for instance, as types, such kinds as *S. Holfordii*, *S. profusa*, &c., plants which are most accommodating in their season of blooming, and which may, with judicious treatment, be had in bloom at any time of the year when required.

It is, however, more particularly as Winter Decorative Plants that I would draw especial attention to the superior merits and adaptabilities of these Staticeæ. They are not only effective for Conservatory embellishment, but admirably adapted for Sitting-room stands, and the various purposes for which plants are in request for house decoration. When cut and associated with the more decided colours of flowers, their fine corymbs of soft blue are very effective. Taken as a whole, but few plants can vie with them in general utility. Easy of management, and freely propagated in quantity, they are assuredly worthy of more general cultivation. How, then, is it, I would ask, that these fine old plants are so seldom met with, even in places where plants are grown in quantities for ornamentation, and where every care and attention is lavished upon plants not nearly so beautiful or useful? Is not the cause to be ascribed to the desire for, and the craving after, new and costly plants which has existed as a sort of fashion, but which, I am pleased to observe, is fast giving place to a more just appreciation of plants of real intrinsic worth, irrespective of their newness? We had in bloom here last December upwards of fifty plants of these Staticeæ, well-grown plants, with the pots completely hidden by the rich green foliage. They were grown in 7-in., 8-in., and 10-in. pots, and on the plants of *S. Holfordii* the flower-stems varied from ten to sixteen in number.

I will now note a few particulars which may serve to guide those not experienced in the culture of these remarkably free-growing plants. When required for winter flowering, strong, healthy cuttings must be selected early in February, and, after removing the greater portion of the leaves, they should be

inserted singly in well-drained thumb-pots, the cuttings being firmly secured in the sand. They are to be well watered, and the pots plunged in a genial bottom-heat. For the exclusion of air, I prefer a glass case, but failing this, bell-glasses will do; ventilate only to prevent damping-off, and in the course of three weeks they will have emitted roots. When this is found to be the case, gradually expose them to the air, and when well established, shift them into 4-in. pots; but in this be guided according to the size and strength of the plant. I prefer a compost of two parts turfy loam, one part peat and leaf soil, and one part silver sand and charcoal. After potting, plunge the pots in bottom-heat, and maintain a moist growing atmosphere, in which they make rapid progress, and soon require a second shift. At this second potting, use the same kind of compost as before, with the addition of a little well-decomposed manure which has been previously dried, and prepared for use; place the plants in the same temperature as before until established; and then gradually harden them off, and remove them to a cooler house, keeping them, however, near to the glass. Syringe twice daily, and give frequent applications of clear liquid manure. The size of the pots into which they are ultimately shifted must, in a great measure, depend on the purposes for which they are required; but for general use, I find the sizes already mentioned to answer well.

In the culture of these plants, one of the principal points by which to secure success, is to guard against sudden checks, which induce premature flowering, and thus prevent a full development of their growth, and considerably mar their ultimate beauty. The flower-stems may be pinched off in the earlier stages as they appear, but it should be remembered that the first formed are generally the finest individually. Green-fly is sometimes troublesome, but may be easily eradicated by a timely application of the usual remedies.

*Witley Court.*

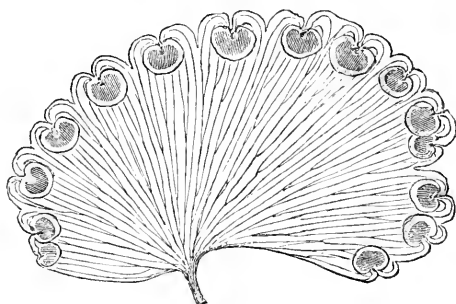
GEORGE WESTLAND.

### ADIANTUM VEITCHIANUM.

**T**HIS new species of Maidenhair Fern is one of the many fine introductions of the Messrs. Veitch and Sons of Chelsea, through their collector, the late Mr. R. Pearce, who found it at Muña, in the Peruvian Andes. It has been recently described in the *Gardener's Chronicle* under the name here adopted, and which has been given to it in acknowledgment of the many valuable novelties, with which the Messrs. Veitch have enriched our collections of garden exotics.

The plant forms a most desirable acquisition amongst the numerous kinds already in cultivation. It bears some resemblance both to *Adiantum Galeottianum* and *Adiantum sinuosum*, especially in its mode of branching; but it is more slender than either, and has neither the entire orbicular cordate pinnules of the former, nor the cornute-margined, deeply-lobed pinnules of the latter. It is of dwarf habit, growing some 8 or 10 in. in height, of which about one-half is taken

up by the stiff black stipites. Two or three pairs of compound pinnæ are produced at the base of the frond, the largest of them scarcely  $1\frac{1}{2}$  in. long; while the upper part of the frond is simply pinnate, with the pinnæ slightly diminishing in size upwards, the wedged-shaped terminal one, both of the frond and pinnæ, being  $\frac{1}{2}$  in. in breadth. The largest of the simple pinnæ measure about 1 in. in their longer and  $\frac{1}{2}$  in. in their shorter diameter; and they are set on stiffly at an angle with the plane of the frond, so that the front margin is projected forwards. The young fronds are very beautiful, being of a fine red colour, the mature fronds being of a pale green.



We borrow the foregoing particulars and the annexed magnified woodcut representation of one of the larger pinnæ of this beautiful novelty, from the specimen of *Baildon's Nature-Printed Ferns*,\* which has lately been issued. M.

#### SEASONABLE HINTS FOR AMATEURS.—FEBRUARY.

THE short, dull days of winter are now nearly past. This season they have been more than usually dull and cheerless, from the great fall of rain we have had; but the appearance of the Winter Aconite and Snowdrop reminds us that now spring is fast approaching, and with it a busy time for the Amateur Gardener. All plans and arrangements for the next season should at once be decided on, if not already done. After the long continuance of mild weather we have had, we may have severe frosts and snow in spring, and should this happen, the greatest attention will be required in seeing that everything which needs it is properly protected, otherwise serious consequences may result, as most plants are already in a forward state.

Some of the hardy Roses may now be pruned; the remainder may be left for a month or six weeks longer, so as to favour a succession of flowers. The pruning of the tender ones had better be deferred until next month. Moss Roses should be pruned back to two or three eyes, otherwise the shoots will

\* *Baildon's Nature-Printed Ferns*, prepared according to his new patented process, by Henry C. Baildon. The descriptions by Thomas Moore, F.L.S., &c. London: Reeve & Co. A set of 12 capital fern portraits on four folio plates, produced by a novel combination of nature-printing and chromolithography, the structural details being added by means of a cleverly drawn woodcut of each of the plants.

become weak and straggling, and cease to produce vigorous flower-buds. Bourbon and Hybrid Perpetuals should be shortened back to four or six buds from the base, removing all the small and cross branches at the same time. Roses like a deep strong soil, and as rich as it can be made. All beds and borders containing bulbs and spring flowering plants should now be carefully dressed, so as to give them a neat appearance.

Trees and Shrubs may be planted in open weather. They should be lifted carefully, without injuring the roots, and in the case of evergreens, as much soil should be removed with them as is possible; the holes to receive the plants should always be made ready beforehand, and when the tree is placed in the hole, the roots should be carefully spread out, and the finest soil put over them, filling it in carefully round the ball and pressing it firmly with the foot. When planted, if liable to be blown about by the wind, they should be properly secured to stakes; they should also have a good mulching of rotten dung, which will keep the soil from being frozen, and prevent its being dried up by the wind.

In places of limited extent, some practical knowledge is necessary to select only such shrubs and trees as are suited to the soil and locality. In the neighbourhood of most large towns, evergreens suffer much from soot and smoke, and yet they are indispensable in such places, for they hide ugly buildings, shut out unsightly objects, and secure seclusion and privacy. In general, Conifers are not admissible, but some of them may be used advantageously in many places. Yews and Arbor-vitæ are invaluable where soil and locality suit them. Hollies are not only the hardiest, but they are the most useful and best evergreens for ornamental planting. Aucubas are also very useful in small places. The species of Berberis, too, are very hardy and ornamental, *B. Darwinii* being a most beautiful shrub. Persons of little experience, when furnishing new grounds, should plant such trees and shrubs as they see grow well in the neighbourhood.

Plants under glass must now be carefully attended to. The winter, on the whole, has been favourable for plants in cold pits, frames, and greenhouses; damp has been the principal enemy to be guarded against. Air should be admitted freely at every favourable opportunity; but cold winds must be carefully shut out, otherwise they will do much injury. I advise air to be given as soon in the morning as it can with safety, and increased as the forenoon advances, and always to shut up early in the afternoon. Cinerarias and Primulas will now be coming nicely into flower.

A sowing of Peas and Beans should be made about the middle or towards the end of the month, to succeed those sown last month. A little Radish, Lettuce, Spinach, Parsley, and Carrot should be sown on a warm border. All gaps among Cabbages should be made good, and the ground stirred between the roots. Where the land is strong, it is advisable not to crop until next month. Having given at page 12 a list of Fruits suitable for amateurs, it has occurred to me that a short list of a few of the most useful Vegetables may not be altogether unac-



ceptable, for there is now so much to choose from in catalogues of vegetables, that the inexperienced become bewildered :—


The varieties of PEA are very numerous, and most of them good. I would recommend the amateur to grow the following:—Daniel O'Rourke, Champion of England, and Veitch's Perfection.—BEAN: Early Mazagan and Green Windsor.—DWARF FRENCH BEAN: China or Robin's Egg, Dark Dun or Liver-coloured, and Negro Long-podded.—RUNNER BEAN: Scarlet. BEET: Pine-apple Short-topped.—BORECOLE: Dwarf Curled.—BROCCOLI: Snow's Winter, Dilcock's Bride, Champion, and Eclipse.—BRUSSELS SPROUTS: Imported.—CABBAGE: Battersoa, Nonpareil, Sprotboro, Wheeler's Imperial, and Red Dutch.—CARROT: Early Horn, James' Scarlet or Intermediate, and Long Red Surrey.—CAULIFLOWER: Walcheren.—CELERY: White Solid and Red Solid.—CRESS: Curled.—CUCUMBER: Stockwood for ridges, and Sion House for frame.—ENDIVE: Green Curled.—LEEK: Large Musselburgh.—LETTUCE: Green and White Paris Cos, Drumhead, Brown Dutch, and Hammersmith Hardy.—MELON: Bromham Hall, Egyptian Green-flesh.—MUSTARD: Brown.—ONION: White Spanish, Brown Spanish, James' Keeping, Deptford, and Tripoli.—PARSLEY: Best Curled.—PARSNIP: Hollow-crowned, and the Student.—RADISH: Wood's Early Frame, Long Scarlet, and Red and White Turnip.—SAVOY: Dwarf Early Ulm, and Drumhead.—SPINACH: Round, and Prickly or Winter.—TURNIP: Snowball, and White Stone.—VEGETABLE MARROW: Cream-coloured, and Custard Marrow.—TOMATO: Large Red, and Orangefield.—POT HERBS: Sweet Marjoram and Sweet Basil.—POTATO: Kidneys—Myatt's Prolific Ash-leaved, Lapstone, and Fluke; Round—Dalmahey, Fortyfold, and York Regents. The above is a list of some of the best varieties of Vegetables, though it by no means includes all the best. I have made it for the use of those who have had little or no previous experience, to enable them to select from the general run of catalogues, and I feel certain they will not do wrong to consult it.

The pruning of all Fruit-trees should now be brought to a close as soon as possible; Apricot, Peaches, Nectarines, and Plums are advancing fast in their blooming buds, and will be early in flower if the weather continues mild. As soon as the blossoms begin to expand, the trees must be protected.

*Stourton.*

M. SAUL.

### ALPINE GENTIAN AND PRIMULAS.

OME few Alpine Plants are delicate or difficult to grow; and amongst the most beautiful and interesting of these are the Gentians, and certain of the Primulas. There are those who will of course be ambitious to succeed in cultivating them, but, in a general way, it would be better to avoid, at first, all such difficult subjects, since a failure with them is apt to be disheartening. I believe that a more liberal code of culture than is generally pursued, is what is wanted for these more delicate kinds, and those which are usually considered as almost uncultivable. The plants are often obtained in a delicate and small state; then they are, perhaps, kept in some out-of-the-way frame, or put where they receive but chance attention; or, perhaps, they go off from some vicissitude, or fall a victim to slugs, which seem to relish their flavour, considering how clean they eat off some kinds; or if a little shaky about the roots, are interred by earthworms, whose casts serve to clog up the drainage, and thus render the pot uninhabitable. With strong and healthy young plants to begin with, good and more liberal culture, and plunging in the open air in beds of coal-ashes through the greater part of the year, I have no doubt that the greater portion of those supposed to be unmanageable would soon flourish beautifully. I have taken species of Primula, usually seen in a very leafy and poor

state, divided them, keeping safe all the young roots, put one sucker in the centre, and five or six round the sides of a 32-size l pot, and in a year made "perfect specimens" of them, with, of course, a greater profusion of bloom than if I had depended on one plant only. Annual or biennial division is an excellent plan to pursue with many of these plants, which in a wild state run each year a little further into the deposit of decaying herbage which surrounds them, or, it may be, into the sand and grit which are for ever being carried down by natural agencies. In our long summer some of the *Primulas* will make a long growth with the roots much exposed,—a state for which dividing and replanting firmly, deep down to near the collar, is an excellent remedy.

Of course there are many with which an entirely different course must be pursued, which demand to be permanently established, above all things never protruding a root above the earth—things like *Spigelia marilandica* and *Gentiana verna*, for example. This last is very rarely succeeded with, and yet I am convinced that few will fail to grow it, if they procure in the first instance strong established plants; pot them carefully and firmly in good sandy loam, well drained, using bits of grit or gravel in the soil; plunge them in sand or coal-ashes to the rim, in a position fully exposed to the sun; and give them abundance of water during the spring and summer months, taking, of course, all necessary precautions against worms, slugs, and weeds. And such will be found to be the case with many other rare and fine Alpine Plants. It would in some cases be desirable to remove these to a cold frame, with a northern exposure in winter; but many kinds, very hardy and stiff in texture, would be better plunged deep in porous material, on a porous bottom, and under a north wall, where they would be excited as little as possible during the winter months.—W. ROBINSON.

### FERTILIZERS FOR FRUIT-TREES.

IN relation to appropriate fertilizers for fruit trees, a diversity of opinion prevails. All agree that certain substances exist in plants and trees, and that these must be contained in the soil, in order to produce growth, elaboration, and perfection. To supply these, some advocate the use of what are termed "special manures," while others ridicule the idea. I would suggest whether this is not a difference in language, rather than in principle, for in special fertilizers, while the first apply simply those principles which correspond with the constituents of the crop, are not the second careful to select and apply manures which contain those elements, and do they not in practice affix the seal of their approbation to the theory which they oppose? Explode this doctrine, and do you not destroy with it the principle of manuring, and the necessity of a rotation of crops?

Trees exhaust the soil of certain ingredients, and, like animals, must have their appropriate food. All know how difficult it is to make a fruit-tree flourish on the spot from which an old tree of the same kind has been removed. The

question is, how shall we ascertain what fertilizing elements are appropriate to a particular species? To this, two replies are rendered: some say, analyze the crop; others, analyze the soil. Each, I think, maintains a truth, and both together enunciate nearly the whole truth. We need the analysis of the crop, to teach us what its ingredients are; and that of the soil, to ascertain whether it contains those ingredients, and if it does not, what fertilizers we must add to supply them. Thus by analysis we learn that nearly a quarter-part of the constituents of the pear, the grape, and the strawberry, consists of potash. This abounds in new soils, and peculiarly adapts them to the production of these fruits, but having been extracted from soils long under cultivation, it is supplied by wood ashes, or potash, the manurial value of which has of late greatly increased in the estimation of some cultivators.

Among the arts of modern cultivation, universal experience attests to the great advantage of mulching the soil around fruit-trees, as a means of fertilization, and of preservation from the drought and heat so common with us in mid-summer. Thus experiment has proved that on dry soils, where the earth has been strewn with straw, the crops have without manure been as large as with it, in those cases where evaporation has disengaged the fertilizing elements of the soil. Mulching is of more importance than most people are aware of. Having been engaged during the past three winters in removing some very large trees with a machine, I have experienced the full utility of mulching material. Amongst those removed last winter were two cedars of Lebanon about 40 ft. high; these have not looked back in the least, notwithstanding the very hot, dry summer. Indeed, we have not lost one large tree that has been removed with the machine during the past three seasons, and I attribute this success to my having kept them well mulched.

*Osberton.*

EDWD. BENNETT.

### GREEN'S PATENT HOT-WATER BOILER.

WE have heard so favourable an account of this new boiler from Mr. Eyles, that we are glad to have the opportunity which Messrs. Green have afforded us, of giving the accompanying representation of it. Mr. Wills also, has been good enough to communicate the remarks which follow:—

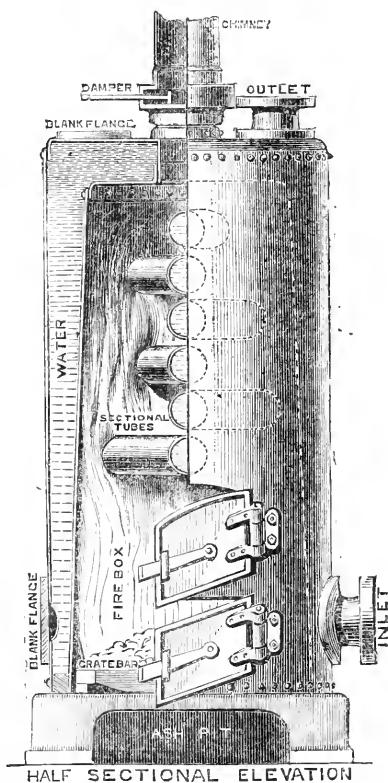
“The Messrs. Green and Son, of Leeds, have for years been studying to produce, for the purpose of generating steam, a powerful boiler, which could be easily placed in position, and would supply the amount of power required at the lowest possible cost in fuel, labour, &c. Having thoroughly succeeded in this, the idea occurred to them that the same principle would hold good with boilers adapted to the purposes of horticulture, or for heating buildings of any description. They accordingly had some made on the same principle, and one of these, sent for trial to the Royal Horticultural Society's Gardens, South Kensington, has proved itself to be the most economical boiler in present use.

“The following are some of the advantages which this new boiler possesses:—

1. It requires no brickwork in setting; this is a very important consideration, for should the necessity at any time arise to repair the boiler, much labour and considerable inconvenience are avoided, besides which there is the saving in bricks and labour in the first instance.
2. It does not require a bulky chimney-stack, a stout sheet-iron chimney answering every purpose.
3. It is complete in itself, having perfect means of regulation.
4. It takes up little space, and can be fixed in places inaccessible to other boilers.
5. It consumes its smoke, and is economical in respect to fuel; this last is a very great advantage, for the expense of fuel, in many parts of the country, proves a serious hindrance to those who would gladly gratify their taste for horticulture.
6. In case of an accident, it can be taken away, and another put in its place in the short space of two hours, during which little or no harm could happen, even during frosty weather.

“Mr. Green has, I believe, conferred a great boon on amateurs and persons of limited means, by producing a boiler capable of heating a large or small space, with a very small quantity of fuel; and when once the pipes are warm—which, according to Mr. Eyles’ experience, will be in the course of half an hour after the fire is lighted—very little attention is required to keep all right.

“The boiler at Kensington is 4ft. 5in. high, and 2ft. 4in. in diameter, and has upwards of 100ft. of four-inch pipe attached to it. The amount of coke consumed in twelve weeks, since the 15th of October, is six chaldrons, which, at 11s. 6d. per chaldron, amounts to £3 9s. 0d. As it has been found necessary to keep one of the furnace doors almost continually open, to check its action, it is fair to assume that the boiler would, if required, do double the work here allotted to it. Mr. Eyles reports that he cannot tell what its capabilities really are, his difficulty having been to keep the heat sufficiently low. The boiler is made of the best wrought iron, capable of bearing a pressure of 40lb. to the square inch, and the tubes, which are placed crossways inside the boiler and immediately over the fire,




are connected with the inner plate. There is but a small space left for water between the two iron plates which form the boiler, and as the action of the fire takes immediate effect on the inner surface and tubes, the water must be made to circulate very rapidly. The boiler may be seen here, both at work and otherwise."

*Ashburnham Park Nursery, Chelsea.*

J. WILLS, F.R.H.S.

### THE PERSIAN LILAC, FOR EARLY FORCING.

LMOST every garden establishment in the country is expected to furnish a constant and abundant supply of cut flowers during the entire season: and there is, generally speaking, little difficulty experienced in realizing this expectation during ten months of the year; but during the remaining two, namely, January and February, even those who can command every appliance sometimes find a difficulty in meeting the demand.

This consideration induces me to call attention to the beautiful sweet-scented shrub which I have named, whose flowers are so suggestive of the balmy breezes of returning spring, that they seldom fail to secure for it the position of a general favourite. It has, moreover, the great advantage of being more easily forced than almost any other shrub; so much so, that it may be had in flower at almost any time. In fact, so accommodating is this plant that a bush of any manageable size may be taken up from the shrubberies, potted, and placed in a warm house, and successfully forced into flower.

Great advantage will, however, be found in having a number of plants prepared and kept for the express purpose of forcing. Any time during the winter let a number of strong suckers be secured from the shrubberies, or an old bush may be taken up and pulled to pieces, selecting a number of rods with a few fibres attached to them; cut these into lengths of about nine inches or a foot, and clear off any suckers or buds from amongst the fibres and from the lower part of the stems, the object being to form dwarf standard plants with clean stems about six or nine inches in length. Plant them in rows at about two feet apart each way, and during the first summer stop some of the strongest shoots, to induce them to form compact, well-balanced heads; and some time during the succeeding winter or spring cut each shoot back to within two inches of the stem. During the following summer they may be expected to form compact round heads, consisting of many shoots, and nearly every shoot terminated by an inflorescence. In the course of the ensuing winter the plants may be taken up, carefully potted, and successfully forced into flower as required.

Some sixteen years since I prepared a number of plants in the manner I have described, and a portion of them have been forced successfully every winter since that time. The same plants, however, are never forced two winters in succession, but all are transplanted every spring, having their roots at the same time slightly reduced, the suckers, if any have been formed, removed, and the shoots

shortened, or rather cut close back, so that the plants are never allowed to flower excepting when they are forced.

To illustrate the small amount of forcing these plants require, I may state that two dozen of them were taken up and potted into 8-in. and 10-in. pots on December 2nd, 1867, and were at once placed on the floor of an early vinery, where the minimum temperature ranged from about 55° to 60°. The blossoms began to open during the first week of the following January, and on the 7th of that month the plants were removed into a cool conservatory, where at the end of January they were in full beauty, most of them bearing upwards of a hundred thyrses of blooms. I need scarcely say that, besides furnishing an immense quantity of cut flowers, such plants form no despicable objects for conservatory or greenhouse decoration at that season of the year.

It is important that they should be removed from the forcing-house into a cooler atmosphere as soon as the blooms begin to expand. When they have done flowering they should be slightly protected for a time, and then planted out. About the end of March their shoots should be cut close back, and in the second succeeding winter they will again be in a fit state for forcing.

*Culford Hall.*

P. GRIEVE.

### THE POMEGRANATE.

IN Holy Writ we read of the "Paradise of Pomegranates." The ruddy glow of beauty on the cheek of the fair one, is there also likened to the rind of the Pomegranate; and well had the poet marked the splendid streak of crimson in the opening blossom of this tree, when, at the feast of flowers, he proposes to "see if the Pomegranates have budded." It is evident that this tree had played an important part in what we should now call the Orchard of Palestine. The extreme beauty and abundance of its bright scarlet flowers, have from time immemorial been associated with those of the Lily and the Rose, wherever loveliness and beauty had to be pictured vividly to the imagination; and not only did its blossoms bear their share in the flowery language of Eastern canticles, but the rich, refreshing juice or wine of its fruit was reckoned a beverage of unquestionable excellence. There can be no doubt that from the earliest days of civilization the fruit has been freely used, and as the tree grows readily from seeds, layers, or cuttings, the burning beauty of its blossoms, and the glowing harvest of its laden boughs, could scarcely fail, even then, to cause it to be sought after and cultivated. We have, indeed, its cultivation as an orchard tree manifest in Jerusalem, and again at Carthage, for the generic name *Punica* points to Carthage as its home. Its English name is truly characteristic, and means an apple full of seeds.

Although this plant, like the Olive and the Vine, belongs to a belt or zone of climate a little to the southward of ours, yet the fact stands unquestioned that in certain favoured spots in England both Vines and Pomegranates will ripen their

fruit in the open air. I can testify to the Pomegranate's fruiting on a flued wall in the open air in the valley of the Thames, and that it is but one shade less hardy than the peach. [See p. 23.] There can be no good reason given for neglecting the culture of this truly classic fruit, excepting that very potent one, that to the great mass of the people, rich and poor, the plant, the flower, and the fruit are all alike unknown.

You drink the juice of the Pomegranate, for it is not a fruit calculated to be eaten; and if ever in the world there has been a cup that cheers, surely the ruddy juice or wine of the Pomegranate has, without inebriating, done the duty of hospitality to perfection. Its juice is not quite so sharp as that of the Pine-apple, and it flows clear from the fruit. To the invalid, the fever patient, the sick, and the dying, this cheap fruit will always be welcome. A splendid fruit recently before me, nearly a pound in weight, was purchased for 3d., and small fruit imported from Valencia were offered at 1s. per dozen in the open market in Manchester last November. Some thirty years ago I purchased my first Pomegranate in Covent Garden, London, not for luxury, but business; and with the living plant and ripe fruit before me, I began to read up its history, fearing that some day I might have to cultivate this notable fruit-tree. Its free growth rather alarmed me, and seemed by no means a recommendation, for I found it would attain a height of 20ft.; and in order to get practically acquainted with the working department,—soil, situation, pruning, training, and the like.—I had to travel many miles to see a tree trained to a flued wall, and I recollect right well with what intense delight I got the first sight of a Pomegranate-tree in bloom. Thirty years have gone by, and yet we do not see this fruit exhibited in dishes at our fruit and flower shows, done up and neatly garnished *secundum naturam*, with twigs and leaves of the parent tree.

We have glass in various forms and devices, and artificial heat at our disposal, from the cheap lean-to orchard house, up to the costly bark stove, with top and bottom heat, if necessary, all the year round. We see the Pear-tree rising to the height of 30ft. or 40ft. in an English orchard, and we see the same kind of tree in an orchard-house bearing fruit freely with only about 4ft. of headway, and less than a cubic foot of earth to grow in, cleverly fed and watered in a clay flower-pot by the skill of the experienced fruit-grower. Therefore, instead of warring with the elements out of doors, this is the direction to take with the Pomegranate. The splendid bright scarlet flowers of the plant will help to encourage the cultivator. Seeds to any extent can be got from the ripe fruit to begin with. The skin of the fruit is hard and leathery, enabling it to travel freely with little packing. In shape it is like an immense poppy head, or like a carboy in miniature, with a bottle-neck, the diameter of a fine one being about 4in., and of an average specimen about 3in. in diameter, and the same in height. The colour is variable, from a deep crimson on a warm yellow ground on one side only, up to a deep crimson all over; indeed, the red

colour runs through the petals of its flowers, the rind of its fruit, and the pulp in which its seeds are imbedded; while the rich, thin juice expressed from it is also of a lively red colour. In its botanical character, this fruit stands alone, with nothing very nearly resembling it in the natural order; its legion of stamens, and its sack full of seeds walled up in cells or partitions, will not allow it to fraternize with the odorous myrtle, for it has no oil bottles in the skin of its fruit and its leaves like that fragrant family, and it may therefore be said with truth of the Pomegranate that it may be long before we see its like again.

*Salford.*

ALEX. FORSYTH.

### EARLY PANCALIER JOULIN SAVOY.

**N**AST year, Messrs. Veitch and Sons sent out a vegetable under the above name, which, after a season's trial, has proved itself so very worthy of cultivation, that I do not hesitate to recommend it to all those who may require a first-rate early summer Savoy. In appearance it is not unlike the Early Ulm, usually grown for summer use; but when well grown, it is superior to that variety in every respect. It is earlier by a week, much more robust-growing, though it does not exceed 8in. in height, of a darker green than the Ulm, and much more fleshy in the leaf, very tender, and with regard to flavour, I consider it superior to any other variety in cultivation. For the benefit of those who may need the information, I would advise that a sowing be made the first week in March, and another at intervals of three weeks up to the middle of June. Cabbages may then be cut from July up to Christmas. From its dwarf habit of growth, it is admirably adapted for those who have small gardens, or for the cropping of fruit-tree borders, it not being necessary to plant wider than a foot apart each way. They must have what our forefathers called a good, holding, fat soil to grow in.

From the same source I obtained a very desirable variety of Cabbage for early spring use, called Atkins' Matchless (Veitch's Improved). This sort, being very short in the stem, is not so liable as others to injury from frost. It is very early, tender, and delicious, and not liable to run to seed. My seed appears to have come from a very true stock.

*Lillesden, Hawkhurst.*

THOMAS RECORD.

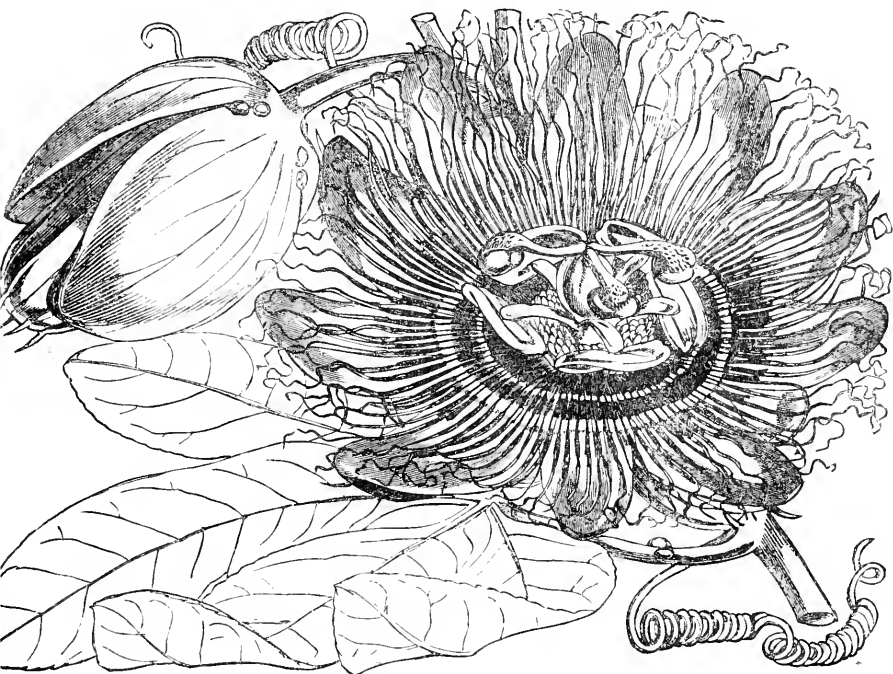
### PASSIFLORA CINCINNATA.

**I**N a recent visit to Dropmore, we saw this charming new Passion-flower blooming freely in one of the greenhouses there. It had been raised from South American seeds, and seemed to be new; and such indeed it proved, for our confrère, Dr. Masters, who accompanied us, and who has plunged over head and ears in the study of this difficult but beautiful genus, finds nothing like it amongst described species. Specimens of the same plant, gathered by Gardner, in Brazil, are, however, met with in herbaria. The annexed



illustration is borrowed from the account of the plant given a short time since in the *Gardeners' Chronicle*.

We have here a valuable addition to our greenhouse climbers. The plant has smooth, cylindrical stems, furnished with stalked, digitate, or palmatisect, deep green leaves, cut into five smooth, coriaceous, oblong obtuse lobes, and bearing solitary flowers, in its leaf axils. The involucre consists of three broadly ovate, concave, green, softly pubescent bracts, and the expanded flower measures about four inches in diameter, the calyx lobes and petals being whitish, sprinkled with



violet-coloured spots, and the corona consisting of several rows of thread-like processes, the outermost longer than the sepals, twisted and curling like ringlets, whence the name, and marked at the base with alternating concentric bands of purple and white, but of a uniform violet hue elsewhere. The beauty of the deep glossy leaves, and the rich purple of the singularly twisted rays of the coronet recommend it for general cultivation, and deservedly secured for it a first-class certificate when exhibited before the Floral Committee. Under Mr. Frost's care the plant thrives in a cool greenhouse, and for the decoration of such structures we heartily recommend it.

M.

## THE GLADIOLUS IN 1868.

**C**CHEERFULLY sit down to give our floral friends a short *résumé* of my doings with the Gladiolus for the year just closed, feeling hopeful that the interest in this most beautiful of autumn flowers may continue steadily to increase, as it has done for some years. In my notes at the close of 1867 I expressed a belief that my habit of planting very early, and covering deeply (6 inches), was a mistake. In 1868 I adopted a totally different system with the chief portion of my stock, and I think I am justified in saying with complete success, so far as success was possible in the very hot year 1868.

I planted my five best beds, of 100 bulbs each, at the end of the third week in February, in rich fresh loam, intermixed with about one-fourth of the very heavily manured soil of the previous year, covering the bulbs two inches. This was very different from the deep planting of previous years, and I am of opinion it will be found better practice. The green shoots began to show, thick and strong, early in April, and when about one-half were well up, I gave a dressing of one inch of the same soil, and one inch more about the end of May. I commenced watering about the middle of May, and continued to do so in moderation every evening all through the season, up to the time of our exhibitions, about the end of August. This, and a liberal mulching of well-rotted manure in July, kept my stock alive and well, in the face of the great heat of last summer. The main bloom came early; the spikes were less tall than usual; the colouring of the flowers was, all through, more brilliant, and, I may safely add, more evanescent, than I ever remember to have observed before. The bulbs were ripe early, and took up large and in prime condition, generally; the quantity of spawn was greatly in excess of any year I ever remember; while seed was plentiful, and ripened early, and in fine condition. Such of my readers as are growers of the Gladiolus will observe a marked difference in the foregoing, on several points, from the results of preceding years. The past year was a bad one for shallow planting, and where it was possible to succeed moderately in 1868, the chances of obtaining a fine bloom in ordinary seasons by the same course of action will be greatly increased. I have said my bulbs took up well.—large, and good and dry. Their average depth from the surface, before being taken out of the ground, was not more than an inch, the soil having been gradually washed away by the incessant waterings. I had all placed in boxes, made specially for them, like those for Tulips, on a larger scale, by the middle of October, and I left them out for a month, lying on a Tulip bed, with the canvas over them whenever rain came. When I got them into the house, and had leisure to go over them to clean them, I found fully as many bulbs as usual dead, shrivelled up, and utterly worthless, and this in many cases, as my note-book tells me, where the growth had been fine, and the spike or spikes of bloom splendid. This is a heavy blow to young beginners. I know several friends whom I have induced to order 50 or 100 bulbs to begin with, and whose little stocks I have supplemented with a few of

my spare varieties, who complain with long faces at the blooming time that they have had very few good spikes; and when the succeeding winter has been got through, the supply of bulbs saved over for planting has been miserably small; bulbs of Gladioli seem to melt away in a strange manner, in the hands of all save the few who are possessed of all facilities for covering them, and of what is still more rare, a love of flowers sufficiently strong to induce them to devote many an hour during the winter, in the fruit and bulb room, to the close examination and supervision of their favourites. I have grown a most valuable stock of Tulips for many years, and I very rarely lose a bulb, not more than two or three in a year, out of a stock of over 2,000; but I never sit down to order my new Gladioli without having to go back, and repeat choice varieties, which I have grown in quantity for years, but which somehow have dwindled away.

I had a fine bloom of my own seedlings this year, some 800 to 1,000 good strong spikes, coming in rather late, and doing good service at show time. These I planted in March, about three inches deep, in good ordinary soil, well manured, and I top-dressed in May, and watered heavily about twice a week. The spikes were much taller, and the losses by decayed bulbs greatly less than in the named varieties. The novelties just let out are generally finer the first year than they ever come after, so that it would seem to be true of other flowers, as Mr. Paul says it possibly is of Roses, when treating of the vigorous novelties of last year, in the *FLORIST*, "that many kinds really vigorous, when beginning life anew from seed, fail and sink under the fast life which, if there is anything in them, they are often compelled to lead."

The novelties sent out last season by M. Souchet were more numerous than usual, and I think, as a lot, not by any means up to the mark in quality. The half-dozen sent out together in 1865 (I think) have individually or collectively never been excelled. They were: Shakespeare, Eurydice, Newton, Maréchal Vaillant, Meyerbeer, Prince of Wales. While there are some few decidedly valuable acquisitions in last year's batch, there are not certainly six flowers at all equal to those just named. First I would name Ulysse, a splendid rosy violet flower, with bright crimson feathers, straw throat, and xxx spike; next I place Rossini, rich rosy crimson, scarlet feathers, throat crimson and white shaded; and third, Semiramis, deep rosy violet, crimson feathers, white throat—a very stylish flower, the blooms well shaped, but rather small, and the spike just middling. These three I consider, in the main, valuable acquisitions, and likely to hold a high place for some time. Taking the next trio, I would give the first place to Norma, soft white, pale mauve throat and feathers, the colours flushing or running after a day or two, large flower, fine spike; next La Fiancée, pure white, with red lilac throat, xx spike, good shape and substance, but fades quickly; next, Eugène Scribe, purple shade of rose, straw throat, crimson blotch, good spike. Then there are Mozart, Barillet Deschamps, Etendard, Uranie, Bernard de Jussieu, Marie Verdier, and a few others, not likely, in my opinion, ever to take a leading place, unless they improve on a second trial, which I do not expect. Byron bloomed very much finer last season, both as regards size of spike and depth of colour, than I had ever seen it before.

For the guidance of "the many" in their purchases for the coming season, I give the names of what I consider the 50 best varieties known to the public up to the present time. I do not profess to be infallible, nor (as taste and judgment differ) do I suppose that any two amateurs would agree exactly in their estimates of the various sorts; still I think the following approximates pretty closely to what the balance of educated (floral) opinion, if attainable, would pronounce for:—Shakespeare, Eurydice, Meyerbeer, Maréchal Vaillant, Prince of Wales, Newton, Ulysse, Rossini, Semiramis, Adolphe Brongniart, Thomas Moore, Princess Mary of Cambridge, Norma, La Fiancée, Eugène Scribe, Félicien David, Flore, Madame Vilmorin, Milton, Madame de Sévigné, Edulia, Belle Gabrielle, Apollon, Reine Victoria, Nœmi, Impéra-

trice Eugénie, Byron, Ensign, Carminata, Etendard, Marie Dumortier, Samuel Weymouth, Mozart, Linné, Reverend Berkeley, Madame Basseville, Madame Rabourdin, Le Poussin, Empereur Napoléon, Lady Franklin, Sir Joseph Paxton, Anais, Achille, Le Titien, Chérubini, The Colonel, Bernard Palissy, Madame Furtado, Fulton, James Veitch.

For a still more numerous class, who may wish for a nice little collection at a moderate cost, I add a list of 50 older and less expensive varieties, of good quality, which any respectable establishment in the seed and bulb trade should be able to supply together, for about 50s.:— Archimodes, Madame Binder, Duc de Malakoff, Lælia, Jeanne d'Arc, Mrs. Siddons, Lord Raglan, Madame de Vatry, Ophir, Madame Sonchet, Madame Eugène Verdier, Dr. Andry, Ninon de l'Enclos, Clémence, Adonis, Endymion, Isoline, Rembrandt, Napoléon III., Comte de Morny, Maréchal MacMahon, Marie, Bertha Rabourdin, Theresa, Julia, Cores, Janire, Galathée, Rebecca, Cuvier, Brenchleyensis, Victor Verdier, Madame Domage, Dr. Hogg, Clara, Madame Haquin, Zoé, Mars, Oracle, John Bull, Madame Truffaut, Mr. Marnock, Madame Lesèble, Lord Granville, Juliet, Princesse Mathilde, Calendulacus, The Cardinal, James Watt, Caury.

Dublin.

J. F. LOMBARD.

### MONTHLY CHRONICLE.



ACCORDING to the Report of the Examiners of the Royal Horticultural Society, the December Examination of young Gardeners gave results which were below the average, the candidates showing themselves specially deficient in respect to orthography. The awards made were as follow:—

TOTAL MARKS	Floriculture ... ..1200. (Fruit and Vegetables 1600.	FLORICULTURE.		FRUIT & VEGETABLE CULTURE	
		Cert.	Marks.	Cert.	Marks.
R. J. LYNN, Kew ... ..	...	1	1040	2	1115
J. MARDLE, Chiswick Student ... ..	...	2	870	3	620
W. JOHNSTONE, Eridge Castle Garden ... ..	...	2	860	3	660
R. INGLIS, Kew ... ..	...	2	810	1	1280
R. WRIGHT, Kew ... ..	...	2	780	2	855
G. PAYNE, Acton ... ..	...	2	690	2	880
R. BARNES, Chiswick Student ... ..	...	2	630	0	425
J. FRENCH, Begent's Park ... ..	...	3	580	—	—
S. FUTRELL, Chiswick ... ..	...	3	530	3	795
J. MCGREGER, Kew ... ..	...	3	520	2	945
W. D. DICKSON, Kew ... ..	...	3	480	3	690
R. MEARNS, Kew ... ..	...	3	460	3	675
J. MERSUM, Chiswick Student ... ..	...	0	240	0	360

— THE late Black Orleans is a fine but neglected Plum, ripening about the middle of October. It is round, sometimes inclining to oval, of a deep purple, with yellow flesh, and very rich and good. It is not such a wild grower as that called Sandalls, which forms a large tree, and comes earlier into bearing. Compared with the latter, it seems a superior variety as to size and flavour.

### Obituary.

— MR. WILLIAM HURST, the senior partner in the well-known and highly respected firm of Hurst and Son, seedsmen, of Leadenhall Street, died on the 24th of December last. He had been for some time in failing health, and had all but reached the allotted threescore and ten, being 69 years of age.

— MR. EDWARD PARKE FRANCIS died on the 11th of January, at his residence, North Road Cottage, Hertford, in his 67th year. He was well known as a Rose-grower, and had been in business for nearly 40 years.

— MR. JAMES BACKHOUSE, the senior partner of the eminent firm of Backhouse and Son, nurserymen and seedsmen, York, died on the 20th of January, at his residence, Holdgate House, near York, in the 75th year of his age.





2

1 Princess Teck  
2 Leotard

## NEW FANCY PELARGONIUMS.

WITH AN ILLUSTRATION.

**L**AST summer we had occasion to remark on the exceptionally fine character of the new variety of Fancy Pelargoniums produced by Mr. C. Turner, of Slough. These novelties were as much deserving of notice, on account of their diversity of colouring, as by reason of their excellent quality. We have to thank Mr. Turner for the opportunity of introducing to our readers, two of the best and most distinct amongst them, which have been accurately represented by Mr. Andrews in the accompanying plate. Latterly, until within the last few years, this very elegant and pleasing race of Pelargoniums was rather overdone with heavily-coloured flowers, both light-coloured and bright-coloured varieties being more sparingly met with. Mr. Turner has been for some time working with much success amongst the latter group, until it has been brought up to a high state of perfection, both as to size, form, and brilliancy; and now he has hit upon a most decided advance in the light-coloured group, as will at once be evident from a reference to our illustration.

PRINCESS TECK (fig. 1) is a remarkably pleasing flower, and quite unlike any other variety of recent date; its finely-shaped stout-petaled flowers are white, with slight blotches of rosy carmine on the lower petals, and a much larger feathery patch of violet-rose on the upper ones; it will make a most attractive stage and exhibition flower. LEOTARD (fig. 2) is a rich, smooth, rosy carmine, with a blue dash on the upper petals, a clean white throat, and a narrow, evenly-defined white margin. Both were shown in May last in very fine condition.

M.

## ON SOME NEW FRUITS AND VEGETABLES OF 1868.

**T**HE New Fruits of the past year have been of unusual merit. The Grape alone, the noblest and most prized of all our fruits, has yielded enough novelty of note, to make 1868 a red-letter year. The Golden Champion is probably the most magnificent grape of which our country can boast. This splendid acquisition, which we have figured and described, is every inch a champion—golden in colour as the Muscat itself, with a flavour equalling its rival for richness, although partaking more of the Hamburgh character, and with a vigorous constitution, adapting it to fill worthily the blank which has long been apparent—that of a white companion to the Black Hamburgh. This, with the Madresfield Court Black Muscat, also figured in our last volume, the Royal Ascot, and the still older Mrs. Pince's Muscat, show rich acquisitions amongst Grapes during the last year or two. Some curious perfumed varieties, obtained as crosses from the Strawberry Grape, have also been reported, and of these we shall doubtless hear further during the present season.

Amongst Peaches and Nectarines the improvements which are being effected are marvellous. The gem of the season is Magdala, a peach of medium size,

ripening in August, with very tender melting flesh, and an exquisite flavour ; it was raised from Rivers' Orange Nectarine.

Figs, which have been strangely neglected in this country, though there is no fruit so really delicious, have come in for a more than usual share of attention. In the Negro Largo (p. 5), introduced from Spain, we shall have gained a noble-looking fruit, of large size, prolific, and of excellent quality ; while the little known Bourjassotte Grise, is perhaps, without exception, the richest of all Figs ; and the Col de Signora Blanca panachée is both an extremely good and a particularly beautiful sort, the fruits being handsomely striped with bars of green and yellow. Of this latter we shall hope shortly to publish a coloured figure.

Of Apples, worthy of notice, the season has introduced to us—Annie Elizabeth, a large culinary winter variety ; Beauty of Waltham, an autumn dessert sort ; Coole's Seedling, another handsome dessert sort ; and Mrs. Ward, a charming winter dessert variety. Amongst Pears, we have one sterling acquisition in the Summer Beurré d'Arenberg, which ripens in August, and was noticed in our last volume ; it was raised from the old Beurré d'Arenberg. Beurré du Cercle, an introduction from the Continent, is a large October Pear, with flesh resembling that of the Marie Louise and Glou Morceau ; and Madame Treyve, another sort of excellent quality, is one of the most beautiful pears in existence.

The past season was perhaps one of the worst for Vegetable culture that has ever been experienced ; nevertheless, some acquisitions have been recognized amongst the novelties introduced. The improvements amongst vegetables are, for the most part, effected by careful selection of particular forms, and the husbanding of seed from these, rather than by hybridizing ; but there are exceptions to this, and we have to thank the successful hybridizers amongst Peas, for the introduction of a race of early green and wrinkled Marrows of wonderful excellence. Laxton's Supreme and Alpha have maintained their high character ; and now we have to record a greater acquisition, named William I., a parti-colored blue and white marrow, as early as Sangster's No. 1, and producing large, well-filled pods. Multum-in-Parvo, a larger form of Little Gem, is in some respects an improvement on that variety. Amongst Kidney Beans, the Salmon-coloured Kidney is a good addition to the dwarfs ; while amongst Runners, Premier, and the Purple-podded, are real acquisitions, true Kidney Beans with running haulm, and consequently continuous bearers. The Sandringham White Celery is a selected and somewhat taller form of the Incomparable White, and Carter's Incomparable Red is an excellent dwarf kind ; while of Endives, we have Fraser's Broad-Leaved Batavian ; and of Lettuces, All the Year Round, to record as valuable novelties.

Of Potatos, which rank amongst the most important of Mother Earth's productions, we have abundance of new material. The past season was, however, one of the strangest and most trying for this particular crop that has ever been experienced ; and the excessive drought affected them greatly. Almond's



Yorkshire Hero is a fine sort. Carter's Main Crop, of the Red Regent class, will prove a most useful variety, being excellent in quality, like the Regent itself. To these may be added, Giant King, and Veitch's Improved Ashleaf. B.

### DOUBLE-FLOWERED ZONAL PELARGONIUMS.

TEN years ago who would have dared to have thought of a double-flowered Zonal Pelargonium? yet they are amongst us, and they even threaten to elbow out the single varieties. The flowers of many of them are very double, and their colours bright and glowing, besides which their blossoms remain so long in perfection, if damp is kept from them, that they are exceedingly valuable as cut flowers. In fact I know nothing to equal them for button-holes, ladies head-dresses, &c., for they will last through a very hot day without falling to pieces or flagging. The plants require very similar treatment to the ordinary Zonals. Most of the varieties are strong growers, and a two or three-year old stool is therefore far preferable to a young vigorous plant; for in these the growth is moderated, and the quantity of blooms increased. The plants should be exposed to the open atmosphere at all favourable opportunities.

Madame Lemoine is a decided acquisition, the colour being quite new and distinct from that of all others in this section; it is very rarely, when this occurs, that all other good qualities follow in the same plant, but such is the case with this variety, which is a far better thing than is generally supposed. The flowers are very double, and the colour a beautiful delicate bright rose; the plant is free, but very dwarf, and altogether it is certainly the grandest Pelargonium that has been introduced for a long time. Emile Lemoine, which is also a new variety, is an advance on older kinds. In its habit, and in the style of expanding its bloom, it approaches nearer to the single varieties. It bears fine trusses and pips, the colour being a light orange scarlet. Triomphe de Lorraine is the next nearest approach to the singles in dwarfness; it bears very double imbricated flowers, of a bright cherry carmine colour, occasionally striped with white, and is a very free, noble, and attractive kind. Capitaine l'Hermite is a very bright orange scarlet. the truss large, and the pips double; a strong grower, but dwarf. Triomphe de Thumesnil is very similar to the foregoing, but with a slight shade of carmine in the flowers, Triumph is the brightest scarlet of any of the doubles, but is not so decidedly double as those already named; it is a very strong grower, and rather long in the foot-stalks. Surpasse Gloire de Nancy is very similar to the old Gloire de Nancy, a bright rosy carmine scarlet, of very fine form, and perfectly double; the flowers are so freely produced that it is a very showy variety, and one of the best. Andrew Henderson is a scarlet. Whether from the heat or the dryness of the past season. I cannot say, but it has with me fallen very short of the description given some time ago with the plate of it in the FLORIST. Madame Rose-Charmeux, or Henderson's Double Tom Thumb, and Cottington or Paul's Double Tom Thumb, are in habit perfectly distinct from any of the fore-

going varieties, being even more moderate in growth than the well-known single Tom Thumb. These two are very similar in appearance, both as to foliage and flowers, but the latter is rather more double than the former; the colour is a dark crimson, the flowers coming in small trusses, freely produced. Could the blooms of Capitaine l'Hermite be put on either of these, it would make a grand addition to this class.

Several new doubles, both English and Foreign, are announced for the present year, and they are said to supersede all existing varieties.

*Woolwich.*

H. CANNELL.

### EFFECTS OF HEAT AND DROUGHT ON FRUIT TREES.

THE great heat and drought of the past season were very trying for gardeners, and perhaps the oldest never experienced such a deficiency of common vegetables. Still, in these parts most kinds of fruit were abundant, and generally of good quality, though they ripened prematurely. Peaches were all gone before the usual time of ripening, and also apricots; these latter were not only plentiful, but of excellent quality, and the trees remained healthy during the severe drought. The same was the case with apples, pears, and plums, but not with cherries, especially on southern aspects, perhaps owing to the time of ripening being more early. These remarks accord with Mr. Cox's observations (1868, p. 233).

My chief object is to notice that except thinning out the superfluous young wood or shoots, the trees were neither pruned nor nailed in close to the walls, until the fruit ripened. Thus they had the benefit of light dews during the night, and the fruit had more shade from hot sunshine; and though the roots lacked moisture, yet, as I have said, the trees were healthy. But I observed that the reverse was the case with some peach trees, which were trimmed and kept close to the wall in the usual way. Though they were well watered during the drought, their leaves were injured by the "red spider," and soon fell off, from which the fruit was deprived of nourishment, and, in fact, became scarred and worthless. Such treatment, however, would have been right in a cooler season. This shows that in summer pruning one should be guided in some measure by the state of the atmosphere. These remarks are also applicable to Espalier trees. I never had such abundance of excellent pears, and yet the trees were not pruned until they were gathered.

This is accounted for by the reasons named above, and also by the encouragement afforded to the roots by the greater quantity of shoots and leaves. Being embedded in dry dust, the roots required all the nourishment they could obtain, through the influence of the tops. This important matter is often overlooked, especially by beginners in gardening; but it is true, and deserving of attention. It reminds me of a conversation which I once had with a great Horticulturist on the summer pruning of fruit trees. He pleasantly observed that young gardeners

should not be allowed to carry knives in summer; meaning that they are apt to use them too freely when trees are growing, and too sparingly while they are at rest. I may have mentioned before in these pages, that sickly trees may be restored to health by allowing them to grow wild for a season. The more abundant foliage which this mode of treatment secures, furnishes from the atmosphere a more copious supply of nutriment to the roots.

*Cossey Park.*

J. WIGHTON.

### THE POT-CULTURE OF FIGS.

PROPERLY managed, Fig Trees in pots produce fruit in greater abundance, and of a richer flavour than those that are planted out, for, the Fig being a gross feeder, it is difficult, under the latter conditions; to restrict the action of the roots, while plants in pots are perfectly under the control of the cultivator. With a collection of Figs in pots, a day will very rarely pass, from June to Christmas, on which ripe Figs cannot be gathered; in September, October, and November they will be abundant, that being the ripening season of the second crop of the early varieties, and the first crop of the late ones.

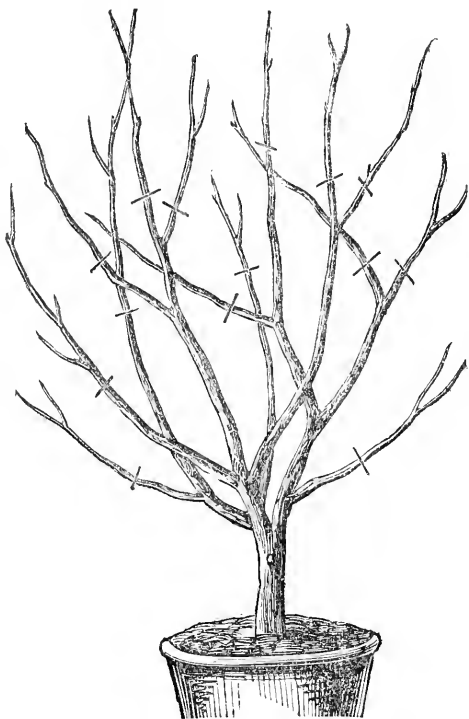
The Fig thrives best in good yellow loam, on a chalky or dry gravelly subsoil; but for pot cultivation the soil must be somewhat richer. The following answers admirably:—two-thirds good yellow loam to one-third lime or brick rubbish, with a liberal addition of rotten manure and burnt ashes. The same mixture may be used for potting the plants in all stages of growth.

Figs may be produced on quite small plants in 5-in. pots. The most eligible size, however, and the largest that need be used, is the 12-in. pot; for as much fruit can be grown in a pot of this size as in any others. Young plants should be repotted early in spring into larger pots, giving them liberal drainage. They must be induced to grow on freely. After they have attained to a fair size, so as to bear fruit freely, and have been shifted into the largest-sized pot allowed, it will be sufficient, instead of repotting, to take the plants out of the pots while at rest, and after shaking off most of the old soil, and shortening the roots considerably, in the same way as is practised with Pelargoniums, to repot them in pots of the same size; or, in other cases, a very good plan is to pick away a great portion of the surface soil, roots and all, say, half-way down the pot, and to refill with fresh soil. In this way they may be grown in the same pots for years. During the summer the plants will derive much benefit from frequent top-dressings of manure, mixed with a little loam.

While in a growing state, Figs require a great deal of water; indeed, when the pots are well drained, and filled with roots, they can scarcely get an over-supply; and they are even benefited at times by placing the pots in shallow pans of water. Manure-water may also be applied with advantage two or three times a week, when the plants are swelling off their fruit. When, however, the fruit is ripening, water must be applied more sparingly, as an overdose then is very apt

to cause it to burst. Some varieties are very subject to this, especially in cold, dull weather. The fruit is, moreover, improved in flavour by the roots being kept drier than usual while they are ripening, though as the fruits ripen in succession, it is difficult to pay very strict attention to this.

The most natural form for a pot Fig Tree is that of dwarf standard, with a clean stem of eight or twelve inches in height. It is of the utmost importance to confine the energies of the plant to this one stem, and the head formed thereon, whatever mode of training be adopted. In forming young plants, as soon as the required height is attained, pinch out the growing point, which will cause three or four of the uppermost buds to break; the new shoots, when they have attained the length of three or four inches, should be pinched in a similar manner. It may be well to state that in pinching back Figs, it is not necessary to take off any expanded leaves, but just to break out the terminal bud before it has expanded. By the end of the second season most of the plants will have formed a head of four or five shoots about six or eight inches in length, which in winter should be pruned to one-half their length. During the succeeding summer the pinching-back must be again repeated. This continuous pinching induces a fruitful habit, causing the shoots so treated to throw out one or more fruits from the axils of the leaves, while those not pinched rarely do so.



The annexed cut represents an ordinary specimen of a vigorous kind, as it would appear at the end of the third season. The branches will have elongated, and in order to keep the plant in proper form, and to have the bearing shoots near "home," as it is called, they must all be pruned back, as indicated. The first crop of fruit, which is produced near the points of the shoots of the last year's wood, will be thus destroyed, but a very abundant second crop will be secured, if attention is paid to the pinching of the young shoots during summer. As the plants grow older, they will make more close-jointed wood, which will

require very little pruning in winter. In a collection of varieties there will always be a few plants with this short stubby wood, from which the first crop of fruit may be obtained, thus securing a succession throughout the season. Many of the finest varieties scarcely ever bear fruit on the wood of the previous year's growth, but produce all on the young shoots of the same year; while



others bear well on the old wood, but very rarely on the young shoots, and there are some few which produce the fruits continuously, although never very abundantly. Thus, by a proper selection of sorts, and by treating them according to their respective habits, it becomes easy to secure a continuous supply.

The above figure represents the variety called *Œil de Perdrix* in a 10-in.

pot, in full bearing condition. It is about seven years old, and produces fruit most abundantly every season, which ripen beautifully. I have gathered as many as five or six dozen figs during the course of the season from plants but very little larger than this; and one plant, of about the same size, in ripening off its second crop, continued in bearing for over six weeks, during which long period scarcely a day passed without one or more ripe figs being gathered from it. This variety is of a stiff, stubby habit, rarely growing more than two or three inches in a season, so that it requires but little pruning or pinching, though it is necessary at times to thin the fruits, which come in clusters. Others, such as *Angélique*, which is of a robust growth, require much pruning and pinching; while others, again, *Lee's Perpetual*, or *Brown Turkey*, being of medium vigour, do not need so much pinching as the stronger-growing varieties. In all cases, however, when the plants are in good health, considerable attention will be required to keep the growing shoots pinched back, since they push up fast; some time might be profitably spent every day in this manner. It is easy and pleasant work, and, unlike pruning, a mistake in regard to it can scarcely be committed.

*Chiswick.*

A. F. BARRON.

### FAST LIFE AMONG THE ROSES.

RECENTLY I proposed the following query, when writing on new Roses:—  
 “Do many kinds, really vigorous when beginning life anew from the seed, fail and sink under the fast life which, if there is anything in them, they are often compelled to lead?”

Many letters have reached me on this subject, and assuming that the writers are readers of the *FLORIST*, I cannot do better than answer them through its pages. One correspondent, writing anonymously (I wish people would not write anonymously), facetiously asks if I mean to assert that there are fast individuals of the genus *Rosa* as well as of the genus *Homo*; for if so, he would wish to have them pointed out, that he may set his mark on them, and have them excluded from the precincts of his domain. Very good! Another asks whether, as a practical horticulturist, I can possibly believe in “that absurd theory” the wearing-out of Roses. There are other questions of a more serious, modest, and practical bearing which I need not quote, but I will endeavour to answer *all* by an amplification of the original sentence.

First, let me say I had no intention of using the word “fast” in its slang signification, but literally as “swift, moving rapidly, quick in motion” (Walker). I have heard it said of a certain London firm that it kills or incapacitates a new partner by overwork every three years. A clever man and a willing worker is admitted, and finds such scope that he is almost always overtaxed. Now, it is much the same with new Roses. So soon as a new Rose is seen and known to be good, it is by some subjected to all sorts of stimulants,—as excessive heat, moisture, manure, &c.,—to get the greatest possible quantity of cuttings, grafts, and

buds from it in the least possible time ; these are taken off in rapid succession, and the young plants thereby acquired are again and again subjected to the same treatment. As in consequence the tissues are weakened, the functions of nutrition are deranged, and debility ensues, from “the fast life which the plant is compelled to lead.” I do not say that individual plants cannot be brought back into their original health and vigour by time and skilful treatment ; on the contrary, I have proved that they can ; but they often remain in a debilitated condition for a long time after having been raised by this extreme forcing process, and there is danger of the reduced vigour becoming fixed or chronic. If by skilful and natural cultivation the vigour of a rose can be increased and maintained (witness Climbing Aimée Vibert and Climbing Devoniensis), surely it is probable that the converse is equally true,—that by unnatural and unskilful cultivation the vigour may be diminished and lost? Most practical horticulturists must, I think, have met with instances of both amongst the various classes of plants to which they may have given special attention.

My object in penning the original sentence was to enter a quiet protest against a practice which I should be glad to see discouraged and discontinued.

*Paul's Nurseries, Waltham Cross.*

WILLIAM PAUL.

#### SEASONABLE HINTS FOR AMATEURS.—MARCH.

**M**ANY very important operations require to be attended to this month, but the weather, which at this season is often of boisterous and uncertain character, will rule these. No favourable opportunity should, however, be lost to push on work. All flower borders should now be gone over, and the plants be rearranged, if they require it. All the large herbaceous plants should be divided, the centre part thrown away, and the outside parts replanted, putting a little rotten dung in the holes for them. Phloxes and other tall-growing plants should be kept towards the back of the border, bringing the dwarfier kinds to the front. The borders should then be carefully dug and raked, leaving vacant spaces for sowing and planting annuals, also for planting-out in May Fuchsias, Salvias, herbaceous Lobelias, Heliotropes, Pentstemons, Antirrhinums, &c. Mixed borders, when judiciously planted, are very interesting for the greater part of the year. They are also a ready source from which large quantities of cut-flowers can be obtained for indoor decoration, without disfiguring valuable greenhouse plants. Even at this season, there are a great number of pretty spring-flowering plants, which, when planted largely in borders, make a place gay and interesting. Crocuses of all kinds are extremely beautiful, and when the sun shines brightly, many of them are quite dazzling. Then there are Snowdrops, single and double ; the winter Aconite ; the Dogstooth Violet ; various Narcissi ; Hepaticas, Drabas, Arabises, Alyssums, Primroses, sweet-scented Violets, &c. Gladioli do well in mixed borders, but they do best in beds ; they should have a sheltered, well drained situation, and plenty of decayed manure should be incor-

porated with the soil. The corms should be planted from three to four inches deep, and may be put in any time from March till June; if planted at intervals of three or four weeks, a succession of bloom may be obtained. The soil between Tulips, Hyacinths, and other bulbous plants, should be stirred occasionally, and during severe frosts and hail-storms the plants should be protected by a covering of some kind. Dahlia roots should be put into a little heat, to start them into growth, and to get cuttings of them.

All plants intended for the decoration of the flower garden in summer should now be freely exposed to the air at every favourable opportunity. Autumn-struck cuttings should at once be potted off. Pelargoniums of all kinds will be benefited by a little heat, if it can be given to them, until they get established; afterwards, they will do very well in a cold pot or frame, but should be kept pretty close until towards the end of April, so as to encourage them to make growth. Verbenas, Lobelias, and similar bedding plants, when first potted, should, if possible, have a little heat until they begin to root into the fresh soil, when they will do well in any cold pit. Yellow Calceolarias are among the most useful of bedding plants; they begin to flower early, and continue more or less in flower until destroyed by the frost in the autumn; they are also among the most easily wintered of all tender plants, as they will do well even during a month's or six weeks' frost in a cold pit without any daylight, if only they are well covered up so as to prevent the frost entering. When the cuttings are put in late in the autumn, they root and do well in almost any situation where they are safe from frost. All the cuttings, whether kept over winter in pans, boxes, or cold frames, should now be planted out into nice leafy soil, in cold pits, about six or eight inches apart, so that they may form good stiff plants by bedding-out time; they should be well watered when planted, and when they require it afterwards. The pits should be kept close for a week or two after they are planted, until they begin to root into the fresh soil, when air should be admitted freely in mild weather. Lawns should occasionally be well rolled, whilst the soil is moist and soft, so as to prepare it for the machine, which, from present appearances, is likely to be wanted earlier than usual this season.

Much should be done during this month in the Kitchen Garden. All seeds should be sown when the soil is in a nice dry state, never when wet. If the soil be in a fit state at the beginning of the month; the main crop of Onions should be got in at once; they may be sown in drills or beds, but where ground is limited it is better to sow in beds, covering the seed lightly with soil from the alleys. A bed of Early Horn Carrot should be sown at the beginning of the month, and one of James's Intermediate towards the end of the month. Most people like to have good Parsley, of which a sowing should now be made. It is best to sow the seed in drills, as then all the worthless plants can be easily weeded out, and only the best should be left; if seed be saved the following season from the very best plants, a good sample will with a little care be secured. The main crop of



Parsnip should be got in towards the end of the month. Small sowings of Spinach and Turnips should be made. Radishes for succession should be sown twice during the month; more Lettuces should also be sown. Two sowings of Champion of England Pea should be made during the month, also a sowing of Early Mazagan Bean at the beginning, and one of Green Windsor at the end of the month. Some Celery should be sown in a little heat. Sowings of Brussels Sprouts, Borecole, and Savoys for main crop should now be made; also a sowing of Walcheren Cauliflower for summer crop. Cauliflower plants and Lettuces in frames should now be planted out; also the Tripoli Onion sown in August last. All the early Potatos should be planted as early in the month as possible, and towards the end of the month the main crop may be got in. Potatos like light, fresh land of good depth; and when planted on newly trenched land, the crop is in general large and fine. The distance between the rows must be regulated by the variety, some sorts having much smaller tops than others. 18 to 20 in. will in general be sufficient for the small-topped kinds, whilst 30 to 36 in. will not be too much for the larger growing ones. Jerusalem Artichokes may now be planted, and beds of Herbs made.

After the long continuance of open weather we have had, all planting and pruning should ere this be finished. This is the best time for grafting. The grafts should have been cut some time since, before the buds began to swell. Pear and Apple trees of worthless sorts may soon be renewed, by cutting off the heads, and grafting with good kinds. The operation is thus performed. The head of the tree is cut off, then a cleft is made from the top with a strong knife or chisel, the thick end of the graft is cut in the shape of a wedge, and inserted in the cleft, and so placed that both barks fit together on the outside; then a bit of matting is tied round, and some clay put over it. In general one graft is sufficient, as when properly done they rarely fail to grow; but novices would do well to put in two grafts, for then if one fails, there is still the chance of the other growing. Apricots, Peaches, and Nectarines should be well protected at night whilst in bloom, but the covering should be removed during the day, except during cold cutting winds or hail and snow-storms, when the covering will be better left over them. Strawberry plantations should now be cleaned and dressed.

*Stourton.*

M. SAUL.

### GENETYLLIS TULIPIFERA.

THE present is a good time to commence growing the *Genetyllis tulipifera* (sometimes called *Hedaroma*). Select a healthy well-ripened young plant in a 48 or 32-sized pot, and shift at once into one a size larger, using fibrous peat broken to pieces (not sifted), with a sufficient quantity of sharp silver sand to cause water to pass freely through when water is applied. Provide ample drainage, over which place some of the roughest peat to keep the drainage open and efficient. When the plant is placed in the pot, let it be so situated that

the soil slightly falls from the stem to the sides of the pot. This should be attended to in the cultivation of all hard-wooded plants, as the reverse condition often leads to their loss, from the water lodging round the stem. Pot rather firmly. Place the plant in a cool airy greenhouse, and pay strict attention to watering. Take the tops off all the stronger shoots as soon as free growth begins. This plant should never be subjected to the shading process, but be thoroughly exposed to light and sun. By the end of June, place it in the open air, where the foliage will soon become stiff and bronzed in appearance from exposure, and the wood well ripened. From the middle to the end of August flower-buds will begin to be formed; and by the end of September, the plant should be removed to the greenhouse, and treated as above directed.

By this mode of treatment fine large floral bracts of almost horn-like substance, beautifully veined and striped with red, will be produced; and these will continue in perfection for eight or nine weeks. If mildew should make its appearance, dust the plant immediately with sulphur, or the foliage will soon be destroyed. *Genetyllis Hookeri*, a somewhat more slender plant, will succeed equally well under the same treatment, and the flower-heads of this species continue in perfection as long, or even longer, than those of *Genetyllis tulipifera*.

*Somerley Gardens.*

J. CHILMAN.

### CELERY FOR EXHIBITION.

THE neighbourhood of Nottingham has long been noted for the gardening skill of its artizans, one of the special hobbies of the district being the growth of Prize Celery. This specialty has lately formed the subject of a lengthy article by Mr. W. P. Ayres, in the gardening department of the *Notts Guardian*, of which article the following is an abstract:—

“The largest and finest-formed Celery is that called Hooley’s Conqueror, the kind with which the champion grower, Mr. Hooley, has succeeded in conquering all competitors. It is a red Celery, remarkable for its broad, thick, fleshy leaves, which are almost free from ribs or corrugations, and is the result of careful selection for some years. For the cultivation of Celery the ground must be thoroughly drained to the depth of three or four feet, trenched, and enriched to the depth of two feet by the addition of manure and leaf soil, the manurial matter being as intimately mixed throughout the soil as possible. The best way is to trench and ridge the soil in early autumn, mixing the dung as the work proceeds. During the winter, in dry and frosty weather, the ridges should be frequently forked over, and in March or April they may be levelled down, and trenches for the plants prepared. These must be 4 ft. apart, and dug out 20 in. deep and 12 in. wide, and should run north and south. The bottom of the trench must be trodden quite firm, and 8 in. of perfectly decayed but rich horse-dung trodden firm, placed in it. The soil being then returned, the trench is ready to receive the plants. The reason for placing the dung so low, is that the roots may get to it and feed upon it just at the time when the centre leaves, those that will be blanched for exhibition, are pushing up. To produce plants for the early October exhibitions, the seed is sown early in April. A slight bed of hot dung must be made up to receive a small frame or hand-glasses, covered with good soil, and the seed sown thinly. When the plants have two or three leaves they are to be planted in nursery beds prepared by treading a piece of ground tolerably firm, and placing on it about 4 in. thick of rotten horse-dung and leaf-mould in equal proportions, which, being trodden firmly, is covered with an inch of rich fine soil. The plants must be put out in lines 4 in. apart, each being pressed firmly. Properly cared for, they will be fit to be transplanted to the trenches in two months from the time of sowing, say by the end of May. Then each trench must be forked over a full spit deep, and the plants put out a foot apart, preserving every

fibre. Press the soil firmly about the roots, water well, and shade the plants until they are re-established. The summer treatment will consist of thorough cleanliness from weeds; copious watering twice or thrice a week according to the weather; and protection of the plants from being broken by rough winds. It may even be necessary after the plants get a foot high, to tie them loosely with matting, but the ligature must not at any time be allowed to get so tight as to cut the plants. In watering it is necessary that the water be warm from exposure to the sun. When the plants are 6 in. to 9 in. high, weak manure-water, prepared by soaking horse-dung and a handful or two of soot in a tub of water, may be given at each alternate watering, and a handful of soot may be scattered occasionally around the plants.

“For Prize Celery it is not customary to earth the plants much until they get the final earthing, but a little soil scattered over the roots about once a fortnight serves as a mulching, and encourages the roots to spread. From five to six weeks is the time necessary to ensure thorough blanching, and that is a very essential point in growing Celery for exhibition. At the time of earthing, the small leaves, and any suckers or secondary shoots that may have formed, are removed from the base; and then each plant, to the height the soil is to reach, is folded in clean strong white paper, and tied loosely with thin matting, not over strong, as it is necessary it should give way as the plant swells. Some use tubes, such as drain pipes, around the plants to support the soil, the tubes being filled up to the necessary height with fine light soil; but if tubes are not used, the soil must be banked up in the usual manner. Water must still be applied to the roots, and liquid manure, weak, but copious in quantity, must be freely administered—the weather, of course, being some guide as to the quantity required. When prepared for show, the Celery plants have the small outer leaves taken off, and being washed quite clean, are shown in pairs neatly tied together.

“The essentials of a perfect specimen of Celery are these:—The leaf or stalk broad, thick, solid, crisp, without ridges, and free from stringiness; the plants of fine form and weighty, dwarf and sturdy rather than long; and the inner leaves regularly grown, without speck, stain, or insect blemish. The blanching must be perfect, and if, in the red kinds, the pink colour does show, it should be of that delicate tint which indicates perfect fitness for table. In judging Celery, any plants that are pipy, hollow, or have rotten or discoloured leaves, are put aside, and a deformed or run centre is a certain disqualification.

“The secret of Mr. Hooley’s great success as an exhibitor is like that of all other great cultivators—a vigorous plant, vigorously pushed forward to its final result. He begins late, by which he escapes the risk of the plants starting prematurely to seed, but he loses no time after he does begin, and rarely fails to bring his plants to the head of the prize list.”

## BOILERS WITH *v.* WITHOUT BRICKWORK.

**M**ESSRS. GREEN and SON’S new boiler and its advantages have been spoken of (p. 39) in such glowing terms, that it may be worth while to look a little closely into the matter, in order to see if all the advantages claimed for it can be substantiated. Taking them in the order in which they stand, the first is that no brickwork is required in setting, and that thereby both bricks and labour are saved. This may be so where there is already a deep stoke-hole, or a cellar below the level of the house to be heated; but if there are no such places ready-made, can a boiler 4 ft. 8 in. high be fixed without both labour and brickwork? The next advantage claimed is that an iron chimney serves instead of one of brickwork. Now, boilers are nearly all fixed in sheds or buildings near to the structure to be warmed, so that there need be no difficulty about a chimney; the brickwork chimney-shaft will not rust out, and, to use a common phrase, the fire will draw better with it. No. 3 I pass over, not having had any experience in such matters. No. 4 cannot be let off so easily. It is stated that the boiler “takes up little space, and can be fixed in places inaccessible to other boilers.” Now, to fix a boiler 4 ft. 8 in. high, for nearly all the ordinary purposes of horticulture, a stoke-hole from 7 ft. to 8 ft. deep will be required; and as the

diameter is given at 2 ft. 4 in., exclusive of the inlet (flange-pieces, I suppose), the stoke-hole will require to be 8 ft. square, and then there will be little room to stoke the fire or to store fuel. Therefore, after all, both labour and brickwork will be required. Inasmuch as this boiler "consumes its own smoke," we have a really legitimate advantage, and the Messrs. Green deserve our warmest thanks for conferring so great a boon, which, I am inclined to think, will be even more appreciated than the economical advantage; although this latter is, as stated, of considerable importance in many places. The 6th advantage looks better than it will be in reality. When it becomes necessary to replace a defective boiler, the no-brickwork boiler will have the best of it; but unless there is a spare boiler in stock, it will be nearer the truth to say it can be replaced in two days.

I cannot but think, therefore, that the advantages claimed for this boiler are more specious than real. Boilers with a brickwork setting gather about them an accumulation of heat, that boilers without brickwork cannot have; and the disadvantage of this will be felt when the fire has to be relighted, and the sweating peculiar to all iron stoves takes place.

This boiler has, I think, another disadvantage irrespective of the setting. I would have nothing to do with any boiler that required to be supplied with fuel from either below, or in front. I do not say that the existing boilers fed at the top are perfection, but they are right in principle; their depth is the great drawback to their being generally used, and I am surprised that the intelligent makers of tubular and other boilers that are supplied at the top, do not reduce the height, and increase the heating surface, by making the tubes larger. Those who have not had the care of tubular boilers can have no idea of their simplicity, and the comfort they are to the firemen who look after them. We have some fixed here, and with the best results. They are only drawn and have the clinkers taken out of them, once a day, just before it is necessary to put the fires on in the afternoon, when it can be done with ease; while the old-fashioned front-fed boilers require to be clinkered nearly every time fresh fuel is put on.

My object in these remarks is to show that it is not worth while to run too eagerly after every novelty that is produced. It has been said of wives, "there is but one good one, and every husband has her": so it may be said of boilers, there is but one good boiler, and every maker is the fortunate possessor.

*Stansted Park.*

GEORGE THOMSON.

### CONIFEROUS TREES IN SHRUBBERIES.

**T**HE planting of Coniferous Trees amongst low-growing shrubs ought to be followed out with much caution, as the influence which the roots of such trees exercise on the growth of the surrounding shrubs is very great, and in many instances pernicious, a fact which ought to have considerable weight with all who plant with a view to ultimate effect and usefulness.

It cannot be denied that a very pleasing and even imposing effect can be pro-

duced at once by an admixture of fine young Coniferous trees with low-growing evergreen and deciduous shrubs; but if the preservation of a thick undergrowth, either as a screen or for shelter, is considered an object in future years, none but the more delicate and smaller-growing sorts should be introduced. There are plenty of such varieties, suitable in every way for effect, which it is easy to keep within reasonable bounds; but such strong-growing sorts as the Deodar and Cedar of Lebanon, *Pinus insignis*, *Abies Douglasii*, *Picea Nordmanniana*, and others, of which the Silver Fir is the type—in fact, all those kinds which under favourable circumstances are likely to grow into timber, should either be planted in groups and as single specimens in parks, or as single specimens on extensive lawns; or, if considered indispensable for the sake of ultimate effect, in shrubberies, or belts, or screens, they should be confined entirely to the background, and never brought so prominently forward as to interfere with the well-doing of the undergrowth, in those cases where the maintenance of that undergrowth is indispensable in future years. I am quite aware that they are so very beautiful in their young state, that the temptation to use them for the production of immediate effect in shrubberies, as a contrast, is almost irresistible; but, in one way or another, they entail so much disappointment in after years, that unless planted with an ultimate object, they should be entirely rejected from such prominent situations. If brought within a near view from the windows of the mansion, they will not be many years in growing into nuisances, as interfering with more distant views; so that just when they are becoming noble specimens, they must be removed, or they will eventually kill everything around them. Many of us know this to be almost heart-breaking work; and it proves the position with which I set out, namely, that very great caution should be exercised in choosing the sites for such trees, in the first instance.

I think a few words may be said in favour of those who planted trees such as those I have mentioned forty years ago, or thereabouts, as most of them were then so rare and valuable, that it is no wonder they were placed in the choicest situations on lawns, and even in mixed flower-beds, where they could be constantly under the eye of the proprietor, no thought being then given as to the future effect; but now their adaptability to the climate and their strong-growing habits are so well known, that such mistakes ought not to occur.

The evil of planting such trees in mixed shrubberies designed to be permanent screens is very great, for eventually, as they increase in growth, the roots take such wide and extensive ramifications, that they suck up all the nourishment from the surrounding soil, so that the shrubs cannot hold their own. It may well be conceived that this evil increases annually, so that the undergrowth gradually dwindles away, and eventually dies. This state of things is often sought to be remedied by grubbing up the old stumps, and trenching and enriching the soil, and then replanting; but this is a fine thing for the Conifers, the roots of which seize upon the new soil with the greatest avidity, and in the course of a couple

of years ramify through its whole extent, so that without liberal surface-dressings annually repeated, the shrubs will again dwindle away; and though by the use of such dressings they may be retained for a number of years, yet eventually the shade of the spreading branches, and the manner in which they contribute to carry the greater portion of the rain-water to their extremities, will effectually prevent any shrubs from growing in the immediate neighbourhood of the stems of the trees. In places of limited extent, this often becomes a serious evil, to be guarded against by the planters of the day.

Where such trees must remain, it will be found that grass will not grow under them, and yet a constantly green surface is indispensable. The best plant I know for furnishing this is the Irish Ivy, which will run over the ground, and being annually nourished by the falling leaves, will grow luxuriantly, and form a thick and permanent evergreen covering. I know no other plant which will grow so well under Coniferous trees, and it is very easily kept within bounds.

*Redleaf.*

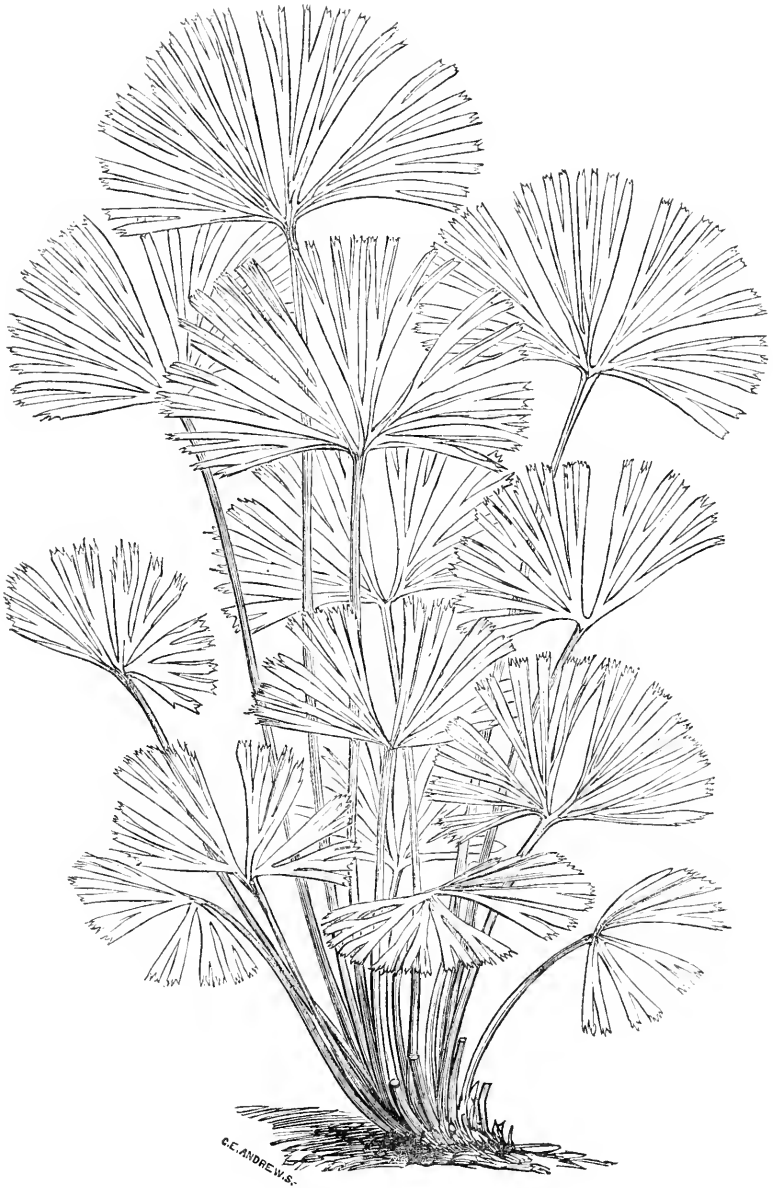
JOHN COX.

### ACTINIOPTERIS RADIATA.

NO difficulty need be experienced in the cultivation of this lovely little Fern, when the botanist's notion that it is found growing on dry banks and such like places, and this too in very hot parts of the world, and that, "therefore, the water-pot and syringe must be very cautiously applied," is consigned to oblivion.

On receiving from India two small dry stems about the size of a horse bean, and some spores, I potted the one, and sowed the other, and placed them in the Indian division of the orchid house. To my great delight, both plants and spores germinated, and leaves were formed. They started well. The spore plants, 47 in number, were "potted off" in fern fashion; the two old plants were watered sparingly, but soon some of the first-made leaves began to die. I still watered carefully, but the leaves continued to turn brown and die, till one plant appeared to be gone to rest for ever. The other kept its fronds better, probably owing to its having a little more moisture—perhaps from a small piece of sphagnum moss or loam having found its way into the pot. In a week or two, the leafless plant threw up again, and as quickly went down; this was repeated three or four times during the winter, and in spring I satisfied myself the plant was quite exhausted and dead. I was also perfectly satisfied that it was owing to a want of knowledge on my part. The young plants, too, began to die rapidly, so that I feared our collection would soon be *minus* the Actiniopteris, and I thereupon resolved to adopt a moister treatment, the result of which was satisfactory.

By this time I had lost 40 of my 47 young plants, and one of the two old ones. While the remaining seven were quite healthy, I broke up some crocks and charcoal in equal parts, and small as peas, and put with them a good bit of silver sand, and a very *small* portion of loam and peat, only sufficient to set this



rough sharp compost; and, half filling some "tall thumb-pots" with small crocks, I potted the plants singly into them, and placed them into the same house, in a mean temperature of  $73^{\circ}$ . This was done in March, and I never

afterwards allowed them to get dry at the root, but syringed them two or three times a day, taking care to keep plenty of moisture between the pots. The temperature was increased to a mean of about  $78^{\circ}$  or  $80^{\circ}$  as the season advanced, and through the summer no part of the house was allowed to get dry, but each day fresh air was admitted. The division is the north end of a span-roofed house, standing due north and south. The plants were so placed that no direct sun could reach them, till about an hour and a half before setting. This treatment was continued through the summer, the temperature being allowed to fall to  $68^{\circ}$  during the night, and to  $73^{\circ}$  by day as the light grew less. The plants rested a little through January and part of February, when, as the light increased, they began to throw up fronds, and in March I shifted them into 3-in. pots, half filled with small crocks. A small piece of sphagnum moss was placed on the crocks, and the compost used nearly as before, namely, crocks and charcoal in equal parts, a good portion of white sand, and a very little soil, mostly little bits of turfy loam. On June the 2nd the plants were exhibited at the Royal Horticultural Society's show in a state of perfect health and vigour. They have since passed into the hands of Messrs. Standish and Co., of Ascot, and I learn that they are still in good health.

*Melchet Court, Romsey.*

WILLIAM J. CROSS.

#### HINTS ON PEACH, NECTARINE, AND APRICOT CULTURE.

**A**LTHOUGH there may exist amongst gardeners and others interested in Horticulture much difference of opinion concerning the out-door cultivation of these delicious fruits, in respect to planting, training, &c., one thing is certain, that if they are not planted in a good border of sufficient depth and width, with ample drainage—the latter being very essential as regards its influence on the ripening of the wood for the winter—they will fail to produce healthy wood and well-flavoured fruit. But there is one point besides, to which I would direct attention, and which, if not regarded, the best border that could be made would not prevent disastrous results. I allude to the not allowing of sufficient room for the wood to swell. The nailing or tying in the shoots too closely, or the permitting the wood to grow hard against the nails or ligatures, are very fruitful sources of canker and gum. The latter, oozing out from the affected parts, will sometimes so seriously injure the shoot or branch as to necessitate its being entirely cut out; and this will not only cause an unsightly gap in the tree, but will also derange the proper balance between root and branch. I am confident that if more attention were given to this point, the cultivator would be well repaid by securing clean healthy wood.

Moreover, fruit-tree borders ought not to be cropped annually—nor should vine borders. If anything is permitted to be grown upon them, it should be Strawberries, and even if these are kept elsewhere it will be the better for the trees. I have known the Moorpark Apricot and other varieties planted in good,



wide, and deep borders, which have been cropped with vegetables, &c., grow on to be large trees so as to cover a wall 12 ft. high. and yet they have completely died to the ground in the space of three years. I have seen some of the same sorts planted where they have only had about a three-foot border, some not even that, and where there has been a continual traffic over the roots, so that the surface has become almost as hard as a flagstone; and yet not only have these trees grown freely, not dying off by wholesale like the others, but they have produced fruit in the proportion of six to one, compared with the trees planted where the borders have been surface-cropped. Nor has the fruit in these cases been small in size and poor in quality, but, on the contrary, large and luscious, and all that one could expect or desire from an open wall.

*Heigham.*

J. S. KENT.

### ON PROTECTING AND SEEDING TULIPS.

THE season being now somewhat advanced, I propose to refer to my mode of protecting the beds, and to the treatment of the plants up to the time of their coming into bloom. The present autumn and winter has been rather an unusual one. The great quantity of rain, together with a continuation of south-west winds, and so little frost, has caused vegetation to go on at a rapid rate, more particularly in bulbous roots. My own Tulips, as well as others, so far as I have seen and heard, are at this time (February 16) farther advanced in growth than our older growers have usually seen them by the third week in March. In consequence of this, I am led to believe that those who wish to secure their bulbs, and to excel in their bloom, require to exercise more than ordinary caution and care. Those who have had the opportunity of keeping off the heavy rains, and preventing their beds from becoming saturated with wet, will find they are best off, for their plants will be later in coming up, and much hardier than those in beds which have had to endure all the soaking rains which have fallen from planting time to the present. The bulbs and grass of such as are above ground are at this time four-fifths water, and if the wind should suddenly turn to the north or north-east, we may expect and yet experience some severe frosty nights and cold days. Be this as it may, it is better to be on our guard, for, depend upon it, a single night's severe frost will not only destroy the fine grass or herbage, with the buds and blooms, but it will greatly injure, if not also destroy, the bulbs. So long as the wind continues in the south-west quarter, all may be well. Although I advocate protection for Tulip beds, I also advise, as well as practise, giving the beds, from the time of planting up to the time of blooming, the full benefit of all fine seasonable weather. Like most other flowers, Tulips are the better for all the sun and air which it is possible to give them; but the more we can cover and protect against soaking rains and that most destructive enemy, frost, the better for the colour and fine style and perfection of marking of the flowers, besides which, we may expect sound, healthy bulbs at lifting time.

I will here add a few hints on my latest practice in seed-taking. First of all, when the flowers are tolerably well in bloom, I select a few of such as I consider most likely to form good female parents, and others to fertilize with, and watching the opportunity when the one flower is in readiness to receive the pollen from the other, I carefully take off with a small pair of tweezers, such as are used for dressing Carnations, &c., four out of the six anthers; I then take one, or more if required, from the male flower, and apply it to the stigma of the other. That is all that is required; only the flower must be caught at the proper time, for when once the pollen is applied while the stigma is open it is sufficient; in two or three hours after it will turn of a pinkish colour, and close up, so that neither bee nor anything else can interfere with its inoculation. To get really choice seeds, choice and first-class flowers must be made use of. The time for rearing seedlings from inferior flowers is gone by. There are opportunities now for those who may have the inclination to engage in seedling raising, such as no one had thirty or forty years ago. We have new flowers now which possess almost every requisite property, and which by some of us are thought to have almost reached perfection. Such as these are now-a-days in the market, and may be purchased at one-fifth the price which had to be paid formerly for sorts with which we would not now cumber our gardens. At the present time we are numerously supplied with first-class Bizarres, both of those termed darks and reds, in my opinion sufficiently so to admit of dividing them, and thus to make two classes. That is a subject which requires to be settled, and which I should like to see adopted at our next national exhibition.

I particularly advise those who intend to try their hand at seedling raising, to be careful to cross or impregnate with the same colour, viz., a Rose with another Rose, a Byblömen with a Byblömen, a Red Bizarre with another Red Bizarre, and a dark Bizarre with a dark Bizarre; for with every care we can use, there will be plenty of the tricolors, and others belonging to no particular class.

*Huddersfield.*

JOHN HEPWORTH.

## THE CULTIVATION OF ALPINE PLANTS.

**F**EW things are, generally speaking, worse cultivated than are Alpine Plants. Even the most successful exhibitors are apt to look, about a day before a show, for the best flowering cuttings of such things as *Iberis Pruiti*, and sticking four or five of these into a pot, present that as a "specimen." Now, what is so easily grown into the neatest of real specimens as an *Iberis*? By merely plunging in the ground a few 6-in. pots filled with rich soil, and putting in them a few young cutting plants, they would, "left to nature," be good specimens in a short time, while with a little pinching, and feeding, and pegging-down, they would soon be fit to grace any exhibition. So it is with many other things of like habit and size—the dwarf shrubby *Lithospermum*, for example; a little time, and the simplest skill, will do all that is required. From amongst such

things as the foregoing, with dwarf shrubs like *Andromeda tetragona* and *fastigiata*, the *Menziesias*, and *Gaultheria procumbens* (such things in peat soil, of course), the choicer *Helianthemums*, *Acantholimons* and dwarf *Phloxes*, like *verna* and *subulata*, neat dwarf exhibition plants, might be provided pretty enough to satisfy even the most fastidious growers of New Holland plants.

Of course, no one with the slightest knowledge of gardening would read, if I attempted to write down, how to grow such free-growing plants as the *Aubrietias* and the like; and yet to have them in perfect condition for showing, they ought to be prepared in time, so as to secure well-furnished plants. Such vigorous subjects, to merit the character of being well-grown, should fall luxuriously over the edge of the pots, and in all cases as much as possible of the crockeryware should be hidden. The dwarf and spreading habit of many of this class of plants would render this a matter of no difficulty. In some cases it would be desirable to put a lot of cuttings or young rooted plants into 6-in. pots, so as to form specimens more quickly. Pots of 6-in. diameter suit well for growing many subjects of this intermediate type; and with good culture, and a little liquid manure, it would be quite possible to get a large development of plant in such a comparatively small pot, but if very large specimens were desired, a size larger might be resorted to.

To descend from the type that seems to present the greatest number of neat and attractive flowering plants to the cultivator, we come to deal with the dwarf race of hardy succulents, and the numerous minute Alpine Plants that associate with them in size—a class rich in merit and strong in numbers. These should, as a rule, be grown and shown in pans: they are often so pretty and singular in aspect, as in the cases of the little silvery *Saxifragas*, that they will be attractive even when out of flower, while the flowers are none the less beautiful because the leaves happen to be decorated in an unusual way. Many of the same type, as *Erpetion reniforme* and *Mazus Pumilio*, must be shown in good flower. All these little plants are of the readiest culture, in pans, with good drainage, and light soil. Of course the ready way to form good specimens of the most diminutive, is to dot young plants all over the surface of the pot or pan at once.

We have next to ascend to the larger type of Alpine and Herbaceous Plants, beginning with such as the *Aquilegias*, and rising to the finer *Phloxes*, *Pentstemons*, &c. These have not yet, any more than the preceding classes, been seen at our shows in anything approaching to proper condition, though the cultivator who can grow a good specimen of the *Chrysanthemum* should have no difficulty with them. The will, and the place, and a little timely preparation, are all the requisites; but as the grower of the most quickly-raised specimen of a soft-wooded plant, must devote thought to his work at least twelve months before he stages his plants, so must he who wishes to succeed with the chief beauties of the hardy class, prepare in time. Indeed, to the plantsman that is all that need be said. In this group, larger pots and richer feeding will be necessary.

In each of these classes the great majority of the plants will be found as

appreciative of good culture as a show *Pelargonium*. The best position in which to prepare the plants would be some open spot near the working sheds, where they could be plunged in coal ashes, and be under the eye at all times. And as they should show the public what the beauty of hardy plants really is, so should they be grown entirely in the open air in spring and summer. To save the pots and pans from cracking with frost, it would in many cases be desirable to plunge them in shallow cold frames, or cradles, with a northern exposure in winter; but in the case of the herbaceous kinds, a few inches of some light protecting covering thrown over the pots when the tops of the plants have perished, would form a sufficient protection.

W. ROBINSON.

### NEW FLORISTS' FLOWERS.

THE marked improvement effected in the Chinese Primrose within the past few years was abundantly illustrated at the meeting of the Floral Committee on the 16th ult., when some very fine forms of this popular flower were exhibited. Foremost was a truly magnificent strain of what is popularly termed the red *Primula sinensis*. The depth of colour, which was a lively rose-purple hue, was something remarkable, while the flowers were very large, very stout, and had showy lemon centres; the habit of the plants, moreover, was stout and robust. The Committee deservedly awarded a first-class certificate to Mr. Williams for this superb strain, which was named *rubra grandiflora*. A white *Primula* of an extremely novel type came from Mr. W. Paul. So pure was the colour, that it might be correctly termed snow-white, and there was this noticeable about the plants, that the leaf-stalks and flower-stalks were both of a reddish hue, the latter being tall, surmounted with a bold truss of flowers, and thrown up high above the foliage, which was more cut at the edge than usual. There is no doubt that these novel types of *Primulas* have the capacity to reproduce themselves from seed; so that on the ground of its undoubted novelty, and fine qualities, this latter strain also should have been awarded a first-class certificate.

Messrs. Windebank and Kingsbury, of Southampton, to whom more than to any others we are indebted for the variation now observed in the *Primula*, also staged a collection of their flowers, though the long journey had sadly marred the beauty of many of the finer varieties. Some twelve or fourteen years ago, these growers took the *Primula* in hand, and it was they who were first successful in raising flaked flowers,—flowers mottled and striped with purplish rose or pale violet on a white ground. This season, a most decided step forward has been achieved by them, in the production of flowers striped with rose—in some instances the colour approaches scarlet. In the hands of Messrs. Windebank and Kingsbury, the old types of the rose and white *Primulas* have changed into some ten or twelve distinct types of variation, all more or less beautiful. In point of size and in massiveness, the flaked flowers are yet behind the white and rose-coloured types, but each year finds them gradually increasing in

quality in these respects. In point of constitution, also, the plants lose nothing in comparison with the older types of flowers. It is noticeable that, as in the case of Mr. Paul's pure white type, all flaked flowers are produced on plants having red leaf-stalks and flower-stalks, though white may be regarded as the ground colour of the flowers, and that the flower-stalks are taller than usual.

In the production of double flowers Messrs. Windebank and Kingsbury have been especially successful. All their double flowers are raised from seed saved from single flowers, subjected to a method of impregnation which they keep to themselves as a kind of trade secret. To two of these double novelties first-class certificates were awarded, viz., *Miss Kingsbury*, white, flaked with bright rose, a novel and beautiful variety; and *Snowflake*, with pure white flowers, large and double, that become suffused with blush as they age. R. D.

### MONTHLY CHRONICLE.

THE Thames Embankment has been planted with a line of trees on the northern side, and thus at length our much abused metropolis bids fair to have a promenade worthy of the name. The tree selected is the so-called Western Plane, the same as that grown in the streets of Paris. The trees have all been obtained from the Continent, and are planted at distances of 40 ft. apart, with smaller trees intervening. Mr. McKenzie at one time intended to plant Planes and Black Italian Poplars alternately; but, owing to the difficulty in getting trees of a uniform size, this arrangement was abandoned. The permanent trees are placed in pits 9 ft. square and 6 ft. deep, filled with 1 ft. 6 in. of brick rubbish, the remainder, in equal proportions, of good garden soil—soil from the pit when suitable, and turfy loam from Barking Creek.

— THE collection of Phalænopsis in Mr. R. Warner's garden at Broomfield affords just now a display which is probably unequalled in Europe, some of the specimens being of very fine growth. They are arranged to form a floral avenue nearly 100 feet long, extending the whole length of the East Indian house. There are upwards of 1,100 open flowers, consisting of *P. Schilleriana* in variety, some of them being very superior forms; *P. grandiflora*, and its splendid variety, *aurea*; *P. amabilis*, of which there are also several varieties; and the rare *P. intermedia* Portei.

— THE following case will be reassuring to those who fear their Aucubas will not bear fruit without artificial aid:—A gentleman living near Kensington Gardens has some very large Aucubas. During his tour in the autumn of 1867 he purchased a male plant, and plunged the pot in the border near to his large plants. In the flowering season the bushes were almost covered with bluebottle flies, of which no particular notice was taken, nor was any idea formed as to what they were doing; but one day he was agreeably surprised to find his large bushes covered with berries, fast turning red, thus proving that artificial impregnation had not been necessary.

— BY far the most important plant (writes Mr. Forsyth) for Planting Game Preserves on dry poor land, infested with rabbits, is the common Braeken or Fern (*Pteris aquilina*), which, carrying its rhizomes underground, maintains its hold against all comers, and if not evergreen, is always there, either green or brown, ready to hide and shelter the Game. A quantity of ripe Braekens taken into the preserves in autumn, and there allowed to rot, will not fail to secure eventually a crop of stalwart Fern to fill up all vacancies. The spores will be thus supplied in thousands, and if the land is not disturbed they will establish themselves, and, after a time, become masters of the situation.

— THE Cocoa Plant (*Theobroma Cacao*) has just produced fruit in the Glasnevin Botanic Garden, being the first instance recorded of its fruiting in Ireland, and almost the first in Great Britain. The plant is some six feet high, and bears the fruit on its trunk near the base.

— THE word Bouquet, as we are accustomed to see it spelt, is a French perversion of two Tartar-Arabic words, *bo*, beautiful, and *ka*, perfume; hence, the original meaning is anything which possesses a beautiful perfume. In like manner, the luscious Tokay wine (of which the Austrian Emperor is reputed to be as fond as the King of Prussia was of Champagne), is indebted for its name to the two Arabic words, *to*, royal or imperial, and *ka*, perfume. When, therefore, connoisseurs speak of their wines having a "beautiful bouquet," they are correctly using the word in its original sense, but they are incorrectly and unwittingly using the adjective twice, first in English, and then in Arabic.

— DURING the past autumn, Messrs. Rivers and Son, of Sawbridgeworth, sent to South Kensington some remarkable examples, varying from about 18 in. to 2 ft. high, of Dwarf Apple Trees on the English Paradise Stock. The number and size of the fruit with which they were laden were extraordinary, *Mela Carla*, *Coe's Golden Drop*, and *Stamford Pippin* having each from six to eight fruits, *Calville Blanc* a dozen, and the beautiful *Pomme d'Api* nineteen, and there had been several more on the trees. The advantages such small trees offer to those who have but a small extent of garden ground are very great. They are, of course, the result of working on a dwarfing stock. This subject of Apple Stocks in connection with Cordon Trees has latterly excited much discussion, but no satisfactory conclusions can yet be drawn, as it is clear that by the *Pommier de Paradis*, or French Paradise Stock, the disputants are not all speaking of the same plant. This Stock question is to be put to the test at Chiswick.

— THE whole mystery as to the falling off of *Camellia* buds (writes Mr. Barnes,) lays in a nut-shell. At Bicton the outdoor plants, with thick, dark-coloured leaves and plump fleshy buds, are exposed to wind, sun, and rain, and never in the least protected. The indoor plants bear foliage and buds of a still more luxuriant character. The outdoor plants get at all seasons all that drops from the heavens. The indoor plants are abundantly supplied with soakings of water, the engine being set to work freely amongst them, morning and evening, so that during the growing season they are deluged, and manure-water and soot-water are freely applied. These simple facts, he thinks, show conclusively that bud-dropping is caused by stint of moisture; and that herein may also be found the explanation of deficiency of bloom-buds.

— YOUNG Gardeners, and old ones, too, for the matter of that, would do well to read, and mark well, the following monition:—"A man, now-a-days, must have something of the steam-engine in him. A lazy, snail-paced fellow might have got on in the world fifty years ago, but he won't do in these times. We live in an age of quick ideas; men speak quickly, think quickly, and slow-coaches are not tolerated. Be up and dressed always—not gaping and rubbing your eyes, as if you were half-asleep, but wide-awake for whatever may turn up, and you may do something before you die. Think, plan, reflect as much as you please before you act; but think quickly and closely, and when you have fixed your eye on an object, spring to the mark at once."

### Obituary.

— MR. GEORGE JACKMAN, sen., of the Woking Nursery, died somewhat suddenly on the 12th of February, from syncope, following an attack of gout. The nursery, which was founded by his father about sixty years ago, has been most successfully carried on since 1830 by the late Mr. Jackman, latterly in association with his son, Mr. G. Jackman, to whom we are more especially indebted for the hybrids of *Clematis*. Mr. Jackman was in his 68th year.







## ORNAMENTAL VARIETIES OF TOMATOS.

WITH AN ILLUSTRATION.

**G**ROWN in pots, the Tomato makes a very handsome decorative plant, the Cherry, Plum, and other small-fruited sorts especially so. Few plants are more strikingly ornamental in the Autumn months than these, when well grown and laden with their numerous clusters of brilliantly coloured fruits. As the ornamental character of these smaller-fruited sorts is not commonly known or appreciated, we have thought it desirable to furnish our readers with coloured representations of some of them.

There is little to add by way of description to the account given of the various sorts of Tomato in a recent volume of our former series (1867, p. 238), but we may here indicate the special peculiarities of those which have been selected for illustration. Fig. 1 represents the **FEEJEE ISLAND TOMATO**, which is remarkable amongst the larger sorts for its decided crimson colour, and for the slightly marked ribs which occur near the base of its fruits. Fig. 2 shows the **ORANGEFIELD TOMATO**, which is the same as the Large Red Italian, and is a very excellent culinary sort, and remarkably prolific. Fig. 3 shows the **YELLOW PLUM TOMATO**, a strikingly ornamental variety, the fruits of which are about the size and shape of a damson. Fig. 4 represents the **PEAR-FORMED TOMATO**, which is red, and of rather larger size than the plum-shaped. Fig. 5 is the **YELLOW CHERRY TOMATO**, whose still smaller spherical yellow fruits, equally with those of the red-fruited form, are produced in great abundance, and have a very attractive appearance. The three latter sorts are especially recommended for the great beauty of the plants, when well-grown, and full of fruit. They may be successfully grown in pots for house decoration, and their quality is quite equal to that of the larger sorts from the utilitarian point of view.

The **CURRENT TOMATO**, of which a fragment is represented at Fig. 6, is the most ornamental of the whole series. In foliage and general aspect it resembles the ordinary kinds, but it is smaller and more slender, and the fruits grow in long, drooping racemes, of which the basal portion only is shown in our figure. These long racemes of fruit, of a bright red colour, give the plant a very beautiful appearance. Messrs. Vilmorin, by whom it has been distributed under the name of *Solanum (Lycopersicum) racemigerum*, give the following account of it:— This most ornamental species of Tomato has been received from M. Durieu de Maisonneuve, the learned director of the Bordeaux Botanic Garden. It is a veritable Tomato, the sub-climbing stems of which are very much branched, and bear a profusion of simple or divided racemes from 6 in. to 8 in. long, composed of from fifteen to twenty-five smooth, round fruits, disposed in two rows, and of a very bright scarlet colour, so as to give them a strong resemblance to clusters of red currants. It is a most interesting plant, which may be thoroughly utilized as an object of ornament, under the treatment given to the culinary Tomato.

In this country—to quote again the article already referred to—Tomatos are mainly used for making sauce or for stewing, and hence the varieties producing the largest fruits have been most esteemed. In warmer climates, however, as in the South of Europe and the United States of America, they are consumed to a much greater extent than with us, and are used in a variety of ways; among others, being much relished in the raw state as a dessert fruit. For this latter mode of use, as well as for the ornamental purposes already adverted to, the smaller-fruited kinds, to which our plate is chiefly devoted, are particularly adapted; and we trust that this special notice may be the means of bringing them into more general cultivation.

M.

## NOTES ON NEW PLANTS.

**B**IMONTHLY meetings and the monthly issues of botanical publications bring numerous novelties under notice. It will be our pleasant duty from time to time to note down a few particulars of the most important of these New Plants, such as are likely to occupy a useful place in our gardens. The early meetings of the present year have yielded several plants of high merit, in addition to the new florists' flowers which appear under a distinct heading. Not the least important amongst those already brought forward, is the *Spiræa* (*Hoteia japonica variegata*) of Messrs. E. G. Henderson and Son, a plant with the elegant habit and inflorescence of the green type, now so extensively used for forcing, but having the leaf-stalks red, and the leaflets traversed by cream-coloured veins, giving it a handsome pale golden reticulated variegation. Another fine variegated plant is the *Thuja Lobbiæ aureo-variegata* of Messrs. J. and C. Lee, a vigorous-growing shrub, in which the branches are freely interspersed with twigs of a rich yellow hue, giving the bush a finely golden variegated appearance. *Aralia peltata*, shown by Mr. B. S. Williams, is one of a fine group of handsome-leaved evergreen shrubby plants, exceedingly well suited for ornamenting halls, cool conservatories, &c.; this species has rather large, thick, deep-green, 3-lobed, or obscurely 5-lobed leaves on long slender brownish petioles, and is of a distinct character. Various forms of New Zealand Flax (*Phormium*) have been brought forward at the several meetings, and as they are all of a highly ornamental character, and suitable for cool conservatories, it may be worth while to enumerate them. First comes the broad, drooping-leaved plant taken as the type of *Phormium tenax*, of which there is also a variegated-leaved variety. Then comes a somewhat narrower and more rigid-growing form, which, under the name of *P. Cookianum*, has been confounded with *P. Colensoi*; and of this, which has now been authoritatively named *P. tenax Veitchianum*, there is also a variegated-leaved form in cultivation. All these become split at the point of the leaf. Finally, there is the much narrower and erect-growing *P. Colensoi*, synonymous with true *P. Cookianum*, whose leaves do not split down from the apex; and of this, also, there is a variety handsomely striped with white,

and, judging from plants shown by Messrs. E. G. Henderson and Son, another having the leaves striated with pale green. From their evergreen habit and characteristic appearance, these all come into the front rank of ornamental greenhouse plants. Another class of highly characteristic greenhouse plants, the Agaves, now occasionally turns up at exhibitions, and seems to be making way in public estimation; we have here to record a highly interesting species from the collection of W. Wilson Saunders, Esq., of Reigate. It is called *Agave Besseriana hystrix*, and is a dwarf tufted plant, with erect leaves 4 in. to 5 in. long and  $\frac{3}{4}$  in. wide, very glaucous, terminated by a strong black spine an inch long, and edged with smaller black spines, which produce a fine contrast.

One or two interesting Ferns have recently appeared. *Asplenium fernandezianum*, sent by Messrs. Veitch and Sons, and obtained from Montevideo, forms a neat tuft of gracefully arching fronds, with small incised obliquely-oblong pinnules, and a proliferous bud at the apex, and is a remarkably elegant evergreen species, well adapted for greenhouse culture; as also is *Todea hymenophylloides compacta*, from Messrs. Standish and Co., Ascot, a variety of that fine pellucid-leaved fern, which has come up plentifully amongst seedlings, and is so slow in growth, that with ordinary treatment, the densely grown plants are not in half-a-dozen years more than three inches high.

Turning to Orchids, the collection of W. Marshall, Esq., of Enfield, has yielded two remarkably fine varieties of *Odontoglossum triumphans*. One of them, called *Marshallii*, has the yellow sepals and petals blotched with brown, the latter being toothed at the edge, and the lip white, with a narrow yellow frilled edge, and deep brown tip, the prominent crest at the base having shorter lateral teeth. The other, called *Wilsoni*, is much smoother, the pseudobulbs looking as if polished, the flowers not toothed, yellow, with larger and fewer blotches of brown, and the lip scarcely frilled, and wanting the lateral teeth of the crests. The Assam *Dendrobium Williamsoni*, as shown by J. Day, Esq., of Tottenham, has pale yellowish flowers, with a dense orange spot on the lip; while the slender-stemmed Burmese *D. lasioglossum*, as shown by Messrs. Veitch, proves to be extremely beautiful, with its fleshy pure white flowers, having a beautiful yellow woolly crest, and rosy tints at the base of the lip; and *D. crassinode* is remarkable for its peculiar short knotty stems, and its white flowers, which are tipped with pale rose, and have a cordate lip deep orange at the base. *Lycaste Schilleriana* is a curious species, with the pseudobulbs and habit of *L. Skinneri*, but with long recurved olive-green sepals, and a white lip connivent with the small white petals. This came from Mr. B. S. Williams. The rare *Lycaste gigantea*, with immense tawny-green flowers on very tall scapes, has been shown in fine condition by Messrs. Veitch. Finally, from the same collection as the last, *Cypripedium Harrisianum*, one of Mr. Dominy's fine hybrid Orchids, has been produced. This is a cross between *C. barbatum* and *C. villosum*, and is a very handsome plant, with the leaves green, mottled with deeper-coloured

blotches, and the flowers olive-green, with a striated pale-edged dorsal sepal, brownish petals, stained with purple, and a dark purple lip.

Turning from shows to books, we find a few striking subjects to record. The true *Vanda insignis* (Bot. Mag. t. 5759) has been at last obtained from the Moluccas by Messrs. Veitch and Sons, and is a beautiful species, with unequally abscised leaves, and rich brown chequered flowers, having a saucer-shaped pale rosy-tinted lip. *Brassia Lawrenceana longissima* (Bot. Mag. t. 5748), a Costa Rica plant flowered by W. W. Buller, Esq., of Strete Raleigh, is a magnificent epiphyte, with the deep orange-coloured sepals seven inches long, and marked with broad purple blotches, the petals and lip about one-third of the length, and the latter pale yellow, spotted near the base. In *Cælogyne Reichenbachiana* (Bot. Mag. t. 5753) we have a beautiful new species of the Pleione group, remarkable for its large, depressed, and reticulately-coloured pseudobulbs, and its handsome pale rosy-tinted flowers, having the lip richly spotted with purple, crimson, and ciliate-toothed; it was sent by Colonel Benson from the extreme eastern part of India, and has been flowered both by Messrs. Veitch and at Kew.

We find illustrations of two fine conservatory climbers, *Tacsonia eriantha* (Bot. Mag. t. 5750), and *Cobæa penduliflora* (Bot. Mag. t. 5757). The first of these resembles *T. mollissima*, but has the under surface of the leaves woolly with white hairs; the flowers are rose-pink. The *Cobæa* is a very singular and graceful climber, with pale green leaves of about two pairs of oblong leaflets, the mid-rib running out into a long pointed tortuous tendril; from the axils of these leaves issue the long-stalked flowers, which are yellowish-green, bell-shaped, but cut at the edge into narrow, pendulous, wavy, strap-shaped lobes 3-4 in. long. It comes from the mountains of Caraccas, and has been flowered at the cool end of the palm stove at Kew.

Among hardy subjects, a lovely little rock plant from the European Alps, where it grows in strongly calcareous soil, is the *Iberidella rotundifolia* (Bot. Mag. t. 5749), a dwarf tufted herb, with obovate entire leaves, and rosy-lilac flowers with a yellow eye, and half an inch in diameter, collected into crowded erect cylindrical racemes. M. Van Houtte, in the last number of his *Flore*, figures the ornamental *Cerasus Caproniana ranunculiflora* (Flore t. 1805), a variety which supersedes all other double-flowered cherries in the extreme fullness of its large pure white flowers, and in the regularity with which the petals are disposed. It is grown in some French gardens under the name of *C. Rhexii*, and in Holland under that of *C. flore-pleno nova*. From the same source we learn of an *Ilex Aquifolium ciliata aureo-marginata* (Flore t. 1811), which is one of the most beautiful of dwarf shrubs, the pigmy of the genus. It is said to be of Belgian origin, and to be as hardy as its type; but the elegant, narrow, spine-toothed leaves are beautifully variegated with a broad golden margin, and hence the plant forms one of the prettiest of all dwarf variegated evergreens. M. Van Houtte quaintly observes that it would make one of the prettiest hedges

in the world, though to realize the full effect one might have to wait a couple of generations—a mere bagatelle! M.

### WHITE CALVILLE APPLE.

**T**HIS is a fine Apple, and the trees are of vigorous habit, both on “paradise” and “free” stocks, but why it should have been so much cried up of late years completely puzzles me. It is good in flavour! Yes! I don’t object to that. It is delicate in texture! Yes! I will admit that. It is peculiar in shape! Yes! this is another of its recommendations, and not the least commendable in these times, when appearances are accepted for so much; but it bears no comparison with Bleinheim Orange or Ribstone Pippin, with Cockle Pippin and Gooseberry Pippin, or with a hundred more excellent English and American Apples which keep sound and retain their flavour and appearance to the last, without becoming discoloured, spotted, and rotten at the core. White Calville Apples at 1s. 6d. and 2s. 6d. each, are too dear. The same price per dozen is more equitable, according to my notions of comparative merit.

*Jersey.*

C. B. S.

### ATACCIA CRISTATA.

**S**OMETIMES I am asked why I have such a fancy for growing curious-looking things. My answer is, that the wonderful and singular forms of the Vegetable Kingdom are equally deserving of attention with those that are clothed in the most attractive and beautiful colours,—even more so, for they possess a beauty of their own, and always command the attention of even the least observant. There is probably no plant in the whole vegetable kingdom that produces more singular flowers than *Ataccia cristata*. It is not easy to describe it, and the other members of its family, to those who are unacquainted with botany, since they differ essentially from all other plants. When not too much shaded, and grown near the glass, the whole flower (except the drooping sterile peduncles, which are white) is purple, of different shades, the erect portion of the involucre much paler than the other parts, and wonderfully transparent. The inflorescence altogether has a most singular appearance.

This *Ataccia* is a native of the Malay Islands, and is found in swampy places. Hence it requires a strong heat, and a constant and abundant supply of water—though it must never be too much drenched, or its roots will rot even in the most porous soil—accompanied by efficient drainage. The best fibrous peat should be used for it, with sufficient sand and broken crocks in the soil to let the water drain off freely. I find it is impatient of too much pot-room: an 8-in. or 10-in. pot will be sufficient for a large plant. It will stand as much heat in summer as any plant in cultivation,—not that it absolutely requires

so much, but when so treated it makes greater progress, and will bloom three times in the season. The flowers last in perfection for a fortnight. It enjoys a light situation, but must be shaded from bright sun. It should never, even in winter, be subjected to a lower temperature than 60°.

Those who may wish to procure a plant should do so in the summer, for if it has to travel any distance during cold weather and it is out of heat for even one night, the chances are that it will be killed. In February or March it ought to be repotted, using in the case of small plants pots 2 in. larger than before, and in all cases removing as much as possible of the old soil, which has a tendency to become sour. Although it has been long in the country, the plant is still scarce. It throws out suckers from the base of the stem, which root freely if inserted in a mixture of peat and sand: but I find it a better plan to cut the plant off just above the suckers, and treat it as a sucker. It will soon root, and receive very little check.

One thing in its favour is that it appears to have a perfect immunity from insects, for I have grown it for 15 years, and have never seen a single insect upon it. It is better not to syringe overhead, as water lodging in the base of the petioles will sometimes cause the plant to rot.

T. BAINES.

*Summerfield, Bowdon.*

### THE OAK-LEAF SILKWORM.

**I**F Silkworms there are many varieties, but in a profitable point of view the mulberry breeds stand first. I propose, however, now to offer some remarks on the newly introduced Oak-Leaf Worm, *Bombyx Yama-mai*, which is a most interesting insect, and is also likely to become a useful one. This *Bombyx* feeds on oak leaves, and I think the Turkey variety is the best. Its eggs are as large as radish-seeds, and of a dark speckled colour. The worms attain a large size, and the moths are exceedingly handsome. The cocoons are about the size of pigeons' eggs, and produce good silk.

In order to rear a few of these Silkworms half-a-dozen young oak plants in large pots should, about March or April, be put into a vinery in order to force them into leaf. They can then be brought indoors about the beginning of May, and the eggs may be placed among the boughs, in little thimble-papers. As many pots should be prepared as may be wanted to carry the worms through their whole life. They could be distributed one worm to each plant, so that the trouble of moving them to fresh leaves would in great measure be avoided. The young insects as soon as they are born are fond of sucking up water, which they do before they take to eating. Water should therefore be sprayed over eggs, worms, and leaves two or three times daily, during and before the hatching. The hatching-room should be kept heated to 70° Fahr., never lower. It is necessary to confine the worms, by surrounding the pots and plants with muslin, or they will crawl about and be lost.

After the third change of skin (for like mulberry silkworms they shoot their skins four times), they may if desired be transferred to the oak in the open air ; and this is stated to be a good plan, when they can be shaded from hot sunshine. Protection by means of muslin bags around the boughs is, however, requisite, or the birds may carry them off. Large boughs 5 ft. or 6 ft. high could be brought indoors, and placed in vessels containing water, or wet mould ; this would maintain the foliage fresh, and render it unnecessary to change the boughs for at least two days. In removing the worms to fresh boughs they should never be handled, but the boughs should be placed alongside the old ones, or the old ones with the worms on should be cut away and placed on the fresh ones. When the worms remain stationary in their sleep, previous to changing their skins, they should not be touched or moved at all. It is recommended to water over the worms occasionally of a hot summer's evening. The worms when arrived at maturity spin their cocoons among the oak boughs and leaves. The beautiful moths appear about the end of August.

*Old Cutton, Norwich.*

LEONARD HARMAN, JUN.

### ANTHURIUM SCHERZERIANUM.

**H**AVE not seen the free-seeding property of this plant noticed so prominently as it deserves to be. Our plant, here, having received no extraordinary treatment, can scarcely be singular in producing its beautiful berries, about the size of buckshot, packed close upon one another with a regularity which cannot but be observed and admired. The colour in the early stages is bright green and most pleasing, but it is when the various changes take place, and as the fruits approach maturity, that the greatest amount of interest is awakened, tints of orange and crimson, spreading from the base to the apex, deepening in colour round the base until they become rivals of no mean importance to the flower-spathe that preceded them. In this condition they remain for perhaps ten or fourteen days, when the gummy substance by which they are affixed to the spadix, seems to lose its power of adhesion, and the fruit drops. The leaves on the plant producing these fruits measure 9 in. in length by  $1\frac{3}{4}$  in. broad. It has had perfect health since we received it from Mr. Williams, of Holloway, about two years ago. It enjoys liberal pot-room, and a soil of light turfy peat, with sand of the best quality.

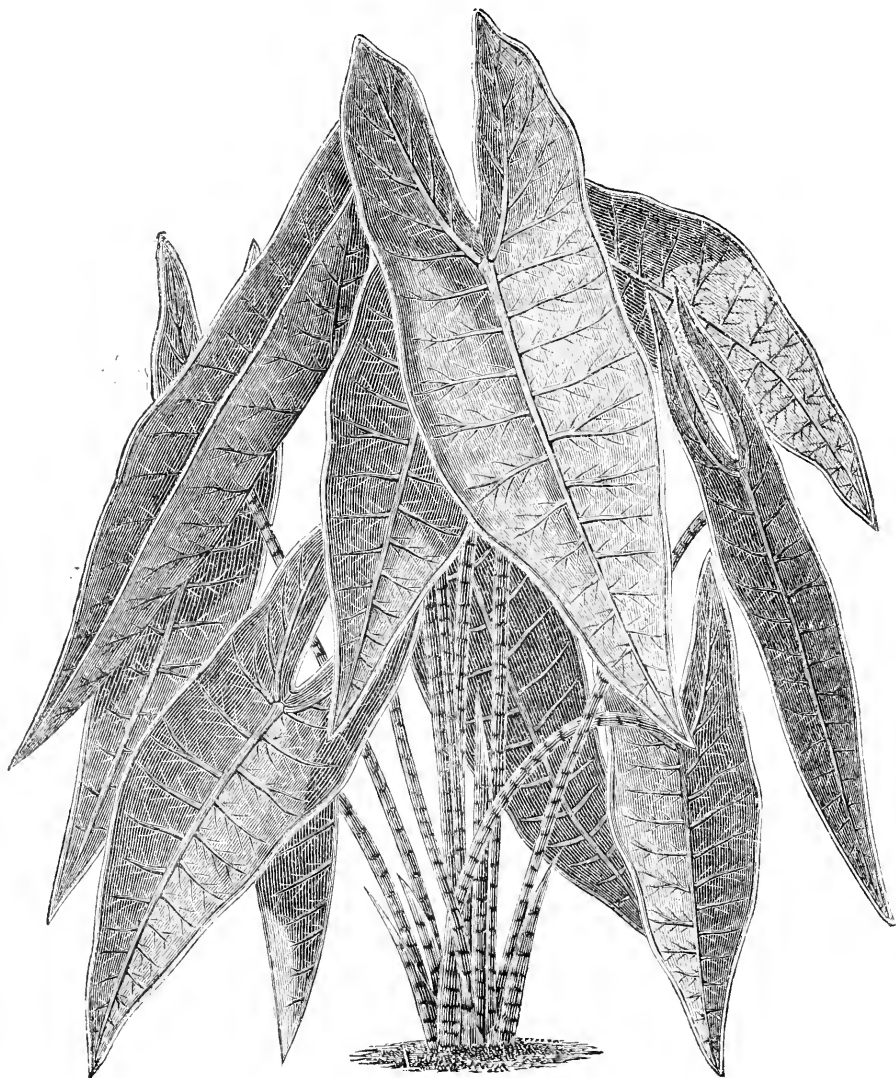
*Southend Gardens, Darlington.*

JOHN RICHARDSON.

### ALOCASIA INTERMEDIA.

**W**E have in this noble stove plant one of the many successful results of hybridization, for which the establishment of Messrs. Veitch and Sons, of Chelsea, to whom we are indebted for our illustration, has become so famous. It is, no doubt, one of the finest of the Alocasias, on account of its free growth and handsome features. The leaves are large and of an

elongate sagittate outline, and they have all the beautiful colouring of *A. Veitchii*, which was one of its parents; indeed, it is exactly intermediate in character between its seed-bearing parent *A. longiloba*, and its pollen parent



*A. Veitchii*. The First-class Certificates and Medal it has won at the Exhibitions of the Royal Horticultural, and Royal Botanic Societies are a sufficient testimony to its merit as an ornament to our hothouses.



*Alocasia intermedia* might be briefly and accurately described as a remarkably vigorous, free-growing, and more abundantly foliiferous representative of the very striking ivory-ribbed *A. Veitchii*, and as such it is certain to become a favourite amongst cultivators. M.

### SPRING FLOWERS FOR FERNERIES.

**S**PRING Flowers are welcome everywhere. It is difficult to name them without getting into what has been sneeringly called the gushing style; nor is this to be wondered at, for each of them is not only a gem of beauty in itself, but a joy in the memory for evermore. These flowers also come upon us with all the charming force derived from striking contrast. We are literally or figuratively frozen up in the hardness of physical death or mental torpor, and suddenly the spring flowers touch us with the quickening breath of a new life. We are mellowed and thawed at their approach, and thenceforth leap up to chant their praise, and descant upon their charms. And yet who has ever exhausted the sweetness of the violet, or the purity of the snowdrop, or awarded praise which transcends the satisfying fullness of the originals?

Amongst my readers I anticipate a great diversity of opinion upon the best means of enjoying to the full our spring garland of flowers. Some prefer converting it into a winter one. Their mania is forcing. Everything that will endure it, is forced out of season. Their taste for abnormal growths is so inveterate that summer beauty must be had in spring, autumn in summer, winter in autumn, and, of course, spring in winter. Well, we can only wonder at the whimsicalities of taste and fashion. He, however, "has made everything beautiful in *its time*," and therefore I believe the best time to enjoy spring flowers is the spring. Still those may readily be forgiven, who seek to have spring in winter, and spring again in spring-time—two springs in one year! Fortunately they will not be alike. The setting of the flowers and their surroundings will be different. Spring flowers in pots, or grouped indoors, are not the real spring flowers of our English season; and much of our enjoyment of spring flowers depends upon their surroundings. A common daisy in a pot, for instance, is nothing; on the green-cushioned lawn, it is alive with poetry and beauty. So it is to a great extent with most spring flowers. Fully one-half of their effectiveness and beauty depends upon their setting.

Spring Flowers, too, supply the link between garden and wild flowers, many of them seeming to hover upon the doubtful border-land between the two. Therefore, they seem most at home in an intermediate state, such as is provided by the well-disposed fernery, a spot where Art may achieve her highest triumph, by losing herself beneath the ampler folds of Nature's drapery. In such positions, disposed in bold patches, spring flowers are irresistible. With the green or even brown fronds of the ferns as a background, they stand forth in all their richness and purity. It is positively charming to see the Christmas rose breaking the

snow away from a *Scolopendrium* leaf, and enlivening it with the glory of its silvery sheen. And then the winter aconite decks the dying fronds with golden crowns, and the pure snowdrop waves its tiny bells among tufted polypods, or curving *Polystichums*, or drooping brown masses of *Lastreas* or *Athyriums*. Here, again, the violet of all shades of colour peeps forth languidly, dropping down sweetness; and the primrose springs out boldly from its rough, strong sheaths of lovely green leaves. In other places large masses of *Arabises*, *Aubrietias*, and *Hepaticas*, of forget-me-nots, daisies, single crocuses of the older kinds, daffodils, common Alpine auriculas, polyanthuses, single anemones, wallflowers, and honesty, white and red, may be introduced among the ferns in all directions. In fact, there is hardly any limit to the number of plants that may be artistically disposed amongst ferns. Care must, however, be taken not to introduce very gross feeders, to rob or overshadow them. Within this limit, almost all small-growing herbaceous plants are charming amongst ferns, whether they flower in the spring, or at other times.

In addition to those already named, most of the *Campanulas*, *Saxifragas*, *Sedums*, *Veronicas*, *Statices*, lily of the valley, &c., have a fine effect, nestling on the ground overhung with ferns, or clothing rough blocks of stone towering far above their feathery fronds. Enough, however, has been said to draw attention to the subject,—one that opens up inexhaustible sources of pleasure and happiness to the lover of nature, and the devotee of art.

One word of caution, to prevent disappointment, and I have done. If the fernery is much overhung with trees, nearly all these flowering plants will require to be propagated annually, and grown on good ground, fully exposed to the sun throughout the summer, and then during winter or early spring transposed in large patches to the fernery, where they will recompense the labour with a sight enough to charm the fair goddess herself!

D. T. FISH, F.R.H.S.

### BOILED LETTUCE.

**S**OME twenty years ago I was at considerable pains to point out the great importance of the Lettuce tribe, not as salad herbs only, but as veritable vegetables boiled after the fashion of spinach; but the thing never got to be popular—in fact never appears to have been understood. In the sunny land of Spain, the muleteer makes a breakfast of a bunch of grapes, and a family will make a light supper of Boiled Lettuce. When I compared notes with an eminent Continental gardener in the employ of Prince Borghese, my idea of salad herbs underwent considerable modifications.

It would not, perhaps, be desirable to go into details of the Continental system of growing salad herbs, or of making dressed salads, prepared with oil and Chili vinegar. Suffice it to say, that with such seasoning (sauce) many herbs would go down sweetly, which our labouring population will not now touch, their ideas of salad being confined to celery and lettuce, dipped into salt and eaten.

The flowers of nasturtium (red and yellow), the petals of roses, and the leaves of common parsley, are all salad materials of the highest order, and give quite a new character to the contents of the salad bowl. But to return to our more immediate subject, the Boiled Lettuce.

Herbs blanched, as Celery, Endive, and Lettuce, are already popular enough, and if it be granted that they are good when eaten raw—and no one will call this in question—it is just possible that in clever hands they might be as good, if not better, when boiled. I have supplied celery for boiling as a “vegetable” twenty years ago, and I only mention it now to show that the boiling business has already set in among our salad herbs, and in all simplicity to state my belief that the practice might be extended with very great benefit to the poor man. The late hot and dry summer gave everybody a relish for salad herbs and cool dishes, and unfortunately the lack of moisture seriously restricted the supply. It is therefore a good time now to turn our dearly-bought experience to account, and not only to grow Lettuce more abundantly than we have hitherto done, but to grow it for a different end, and after a different fashion.

Under ordinary circumstances, Lettuces are reckoned unfit for table unless they are fully grown and well blanched, but it is very far otherwise with Lettuces that are grown for boiling. If they stand thick enough upon the ground, whether blanched or not, provided they are big enough, nothing more is needed; and although all sorts of Lettuces will do for boiling, Cos Lettuces alone should be grown for that purpose. All the tying-up will be done away with, and much less space will be wanted to bring the same number of plants to maturity than has till now been required. It therefore amounts to the introduction of an entirely new vegetable into our dietary, and, moreover, one of the most tender in quality as well as one of the most easily cultivated. When once the prejudice which unfortunately exists among a certain class against all novelties, has been got over, we may hope to see a railway porter with his patch of Lettuce by the side of the “line,” not for the purpose of being eaten as a salad herb, but to accompany bacon, mutton, or beef, as the larger half of a good dinner.

When supplied with plenty of manure and moisture, Lettuces rush up rapidly, and therefore frequent sowings will be necessary to ensure a regular supply. By growing the plants in seed-pans or boxes under shelter in spring, and by transplanting and watering, four crops may be got in the year off the same ground; and he will be but a poor tiller of the soil, that cannot get at least two crops a year off the same land, by sowing the seeds where they are to remain without transplanting. Each crop will yield a very great weight of food, for in the case of Lettuces for the pot, it is all eatable that stands above ground; there is no waste. A pinch of the seed of the value of one penny will suffice to sow a bed 9 feet long and 4½ feet wide. About 16 plants should be grown on every square foot, but I need not enlarge upon the way that a bed of broad-cast Lettuces should be cultivated; for if they are well sowed on a firm, level bed,

and lightly covered with sand or finely sifted soil, little else will be needed until they are fit for the pot. The richer the soil, the more crisp and delicious will the Lettuce crop be, and the sooner will it come to perfection.

*Salford.*

ALEX. FORSYTH.

### THE KUMQUAT, CITRUS JAPONICA.

[The following valuable information respecting the treatment of this highly ornamental fruit-bearing shrub was communicated to the meeting of the Royal Horticultural Society on the 16th ult. by Mr. R. Fortune :—]

**A**MONGST other plants which I discovered and introduced into this country while on the mission to China in 1842 was the *Citrus japonica*, or Kumquat. I found it cultivated over a large tract of country in China, but it was evidently most at home in the more temperate parts—for example, in the islands of the Chusan Archipelago, and on the mainland in the same latitude. Here large plantations were met with on the lower slopes of the hills, and very beautiful they appeared in autumn, winter, and spring, when the plants were covered with their golden-coloured fruit and deep green leaves. The fruit is much liked by the natives, who eat the skin as well as the pulp. Its chief value, however, is when used as a preserve. A large quantity is exported annually to Europe and America in China jars, preserved and sent home in nearly the same way as the better known China ginger is sent.

In a horticultural point of view, in this country we must look at the Kumquat as an ornamental plant only; and I think that if our gardeners would set about it in the right way, they would find its cultivation easy, and it would amply repay them by being one of the most ornamental plants for winter decoration. I believe that a knowledge of climate and other circumstances relating to a plant's natural habitat is of the first importance, if a gardener would be successful in its cultivation. Here is a wide field for study, in which practical horticulturists would do well to labour. For what do we really find if we enter an ordinary hothouse in some of our English gardens? We find plants which have been formed for, and which occupy situations on the earth's surface widely different, crowded together in one house, where they are treated much in the same manner, as if their nature and requirements were of a like character. Need we wonder at the results of such treatment? I may mention, as an illustration of this subject, a circumstance relating to the cultivation of the Tree Pæony in China. This beautiful plant is a native of the more northerly parts of the Chinese Empire, where the winters are extremely cold. Large quantities of it are brought south to Canton and the other southern towns every autumn, where it blooms well the first year, but the first year only. The winter is too warm for its constitution, and if its cultivation is further attempted in the new climate, it only dwindles away, and eventually dies. In practice the Chinese simply throw the plants to the rubbish heap when the blooms fade, and order from the north a fresh consignment every autumn. In no country in the world is the artificial

cultivation of the Vine more successful than it is in England. The reason of this is, that its natural requirements are thoroughly understood and supplied. When we can say the same regarding many of the tropical and other fruits which we now see so seldom, although the plants themselves have been long in our possession, those fruits will soon be common enough. In addition to the Pine and the Grape, we shall have the Mangosteen from Singapore, the Bombay Mango, the Lechee, Longan, and Yangmae of China, and a number of other fruits from various parts of the world, which will add to the enjoyment and interest of the dinner-table. But first of all we ought to be successful with the Kumquat and some small Oranges from the temperate parts of China, as they come from a climate more nearly resembling our own, than does that of the other plants to which I have just alluded.

From what I have stated of its native country it will naturally be concluded that it is a much hardier plant than the common Orange. In the country where the Kumquat is found in the highest perfection, the common Orange will not survive the winters; and, on the other hand, the Kumquat, when cultivated in the south of China, does not succeed, although the common Orange is found there in the greatest perfection. The cold winters of the North, which kill the Orange, are favourable to the constitution of the Kumquat. Both plants require warm summers; indeed, the northern summer is frequently hotter than the southern one. A hot summer temperature, varying from 80° to 100° Fahr., is necessary to enable the Kumquat to form its growth and ripen its new wood; in winter it will bear without injury from 10° to 15° of frost, and perhaps even a lower temperature than this.

Keeping in full view the principles I have endeavoured to illustrate, and taking our lesson in cultivation from Nature, there ought to be no difficulty in cultivating the Kumquat in England. If we wish to have it in high health and vigour, we must keep it cold and rather dry in winter. During its season of growth in summer it ought to have a liberal supply of water, and a temperature of from 80° to 100°, and this heat should be kept well up even in autumn, in order that the young wood may be well ripened.

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### THE GLADIOLUS AS A SHRUBBERY ORNAMENT.

**F**AST year I had between 3,000 and 4,000 Gladiolus bulbs planted in the shrubberies here, principally amongst Rhododendron clumps. Although the summer was so dry and warm, they flowered vigorously, which was, I believe, owing to the particular way in which they were planted, and from their having the benefit of several waterings when the Rhododendrons were watered in June and July. On planting the bulbs, two or three spadefuls of the surface soil was taken off, and some well-rotted horse-manure was dug into the subsoil. The topsoil was then filled in, and three or four bulbs planted in every patch. The soil of these clumps was mostly of a red sandy nature, mixed with

some peat or leaf-mould; and such light soils seem to suit the *Gladiolus*, for I observed very few diseased bulbs amongst the whole lot when they were lifted in October. The spawn (young bulbs) from them was likewise something extraordinary, for they filled nearly a two-bushel hamper, and it would have puzzled Bishop Colenso to have made an estimate of their numbers. On strong rich soils the *Gladiolus* never throws so much spawn as on poorer light soils, and this should be noted by all growers when they are anxious about extending their propagation.

There is still a great want in the straw, buff and yellow-coloured varieties to give effect amongst the red, scarlet, purple, and light sorts, in masses or in lines in the borders. I have succeeded in raising a quantity of seedlings from *El Dorado*, crossed with another nankin-coloured variety, and selected last autumn, on their flowering, about fifty yellowish-coloured sorts of good properties, for propagation. I fully believe every gardener, where these flowers are in request, might with very little trouble raise a batch of seedlings every year, and save himself from procuring expensive sorts from the French growers. There is now a great sameness in the colours and shapes of the varieties annually sent out, and as much perfection in their properties as will perhaps ever be arrived at. The cross-breeder must now try for some better yellows, straws, or buffs, and perhaps shades of blue will yet be obtained amongst these gorgeous autumn flowers. One seedling flowered with me last September distinctly marked with a bluish tint in the centre of each petal.

WILLIAM TILLERY.

*Welbeck.*

#### SEASONABLE HINTS FOR AMATEURS.—APRIL.

**M**ANY of our hardy Annuals are so really beautiful and interesting that they commend themselves to all true lovers of flowers, but to those who only have a limited extent of glass for the protection of the ordinary "bedding" plants through the winter, they are invaluable, as by means of these, at a slight expense, a fine display of flowers may be obtained; and this, if not so prolonged as the display of summer bedding plants, is, nevertheless, of great beauty and interest whilst it lasts. Hardy annuals should be sown at once in the open ground; they will grow in any ordinary soil, but they do best in a good loamy one, which has been dug deeply, and has had a good portion of rotten manure worked into it; in such soil they grow freely, and if the plants are thinned out when young, and attention is paid to staking and tying, they will branch out and continue a considerable time in flower. Beds intended to be sown with annuals should be deeply dug, if not already done. All vacant places, in borders not wanted for *Fuchsias*, *Salvias*, and the other plants recommended last month, should be sown at once with hardy annuals.

An old-fashioned and excellent mode of preparing the ground for sowing annuals, is to take the soil out to some depth, where it is intended to sow the

patch of seed, then to put a little rotten dung into the bottom of the holes, filling up with the soil that was taken out, pressing it down firmly, and finishing off by levelling a little below the adjoining surface. Then the seed is sown, and covered lightly with soil passed through a fine sieve, and the name of the plant written on a label and stuck in front. Some attention is necessary in covering the seeds, as all the smaller kinds require only a light covering. As great a variety of annuals as possible should be sown in mixed borders, leaving room for Dahlias, Fuchsias, Salvias, &c., as previously recommended; they come into flower early, are extremely beautiful and interesting, and by the time they begin to fade the other plants will be spreading fast and coming rapidly into flower. Tender annuals should be sown in pans and boxes, and put into a little heat. When the plants are up they should be pricked off, either into boxes which can be put under cover, or into frames or beds specially prepared for them.

Alpine plants will now be coming into flower. Tulips, Hyacinths, and other bulbs must be protected from frost, hail, and cutting winds. Pansies, Pinks, Carnations, Pentstemons, and other plants, kept over winter in pits, should be planted out at once, if not already done. Those who wish to have a fine show of Chrysanthemums next autumn should now attend to their plants. Perhaps the easiest method for the amateur to adopt, is to shake the old plants out and divide them, then pot three or four slips into a small-sized pot, and put them into a frame where they can be kept close for a few days until they begin to make fresh roots, which they soon will do; afterwards they will do best in the open air. As soon as the plants begin to fill the small pots with roots, they should be all shifted into larger-sized pots, using a compost of loam, rotten dung, leaf soil, and river sand. When potted they should be set in an open airy situation, and should be well attended to in watering. They will require another shift in about six weeks' time, when more dung and less leaf-soil should be used in the compost. This shift will in general do to flower them.

The directions given last month for Bedding plants should be attended to this month. Spring-struck cuttings should be potted off, and pushed on. Many of the hard-wooded greenhouse plants will now be in great beauty; air must be admitted freely in mild weather. The plants will now require liberal supplies of water. Plants not in flower, and beginning to grow, should be carefully shifted into clean well-drained pots. Soft-wooded plants should be encouraged to grow by liberal shifts. Young Fuchsias should be shifted as they seem to require it. Cinerarias should be kept well-watered. Pelargoniums should be tied out as they advance in growth, and green-fly must be kept down by fumigating.

This is a most important month in the Kitchen Garden, and every advantage should be taken of favourable weather to get in crops, and to push on operations. The main crops of Carrots, Parsnips, Beet, Salsafy, and Scorzonera should be got in early in the month. The ground for these should be trenched deeply. Broccoli, Borecole, Brussels Sprouts, Savoys, and Cauliflowers should be sown on beds

in open situations ; also some Lettuces and Radishes for succession. Two sowings of Peas and one of Broad Beans should be made during the month. The Peas sown last month should be rodded as soon as they are fit. A few Leeks should be sown. Sweet Basil and Marjoram should be sown under hand-glasses on warm borders. Towards the end of the month dwarf French Beans should be sown on warm borders, and at the same time the first sowing of Scarlet Runners should be made. A few early Dutch Turnips should be sown. Cauliflowers, Cabbages, and Lettuces should be planted out for succession. Celery sown last month should be pricked out, and a little more should be sown for late crop. As soon as Onions, Turnips, Carrots and all other crops sown in drills are up, the soil between the rows should be stirred carefully with the Dutch hoe. The planting of Potatos should be finished as soon as possible.

Fruit trees must be kept protected, but more especially Apricots, Peaches, and Nectarines, which have been very full of blossom this season. The weather, on the whole, has been very unfavourable, but where proper attention has been paid to protection, there will be good crops ; where it has been neglected, I fear the crops will not be so good. Disbudding should be commenced as soon as the trees are forward enough ; it is best to go over the trees often, and remove a few buds at a time. Bullfinches sometimes do a deal of damage in an incredibly short space of time, if not detected. During the winter we escaped, but lately several pairs have visited us, and our standard Plum trees soon notified their unwelcome presence. I know of only one effectual means of getting rid of these depredators, and that is to shoot them the moment they enter a garden or orchard. The amateur should now get some fermenting materials together to make a cucumber bed towards the end of the month ;—I don't recommend him to begin sooner,—as the weather by that time becomes more settled and warm, and very little attention is then necessary to ensure satisfactory results. As soon as there is a nice heat up in the bed, some fresh turfy loam should be put in the middle of each light, and when this has got warmed, two plants of Sion House or Lord Kenyon's favourite should be planted in each hillock. All the attention that is then necessary is to give them plenty of air during the day, to water the plants when they require it, and to cover the frames at night with mats. M. SAUL.

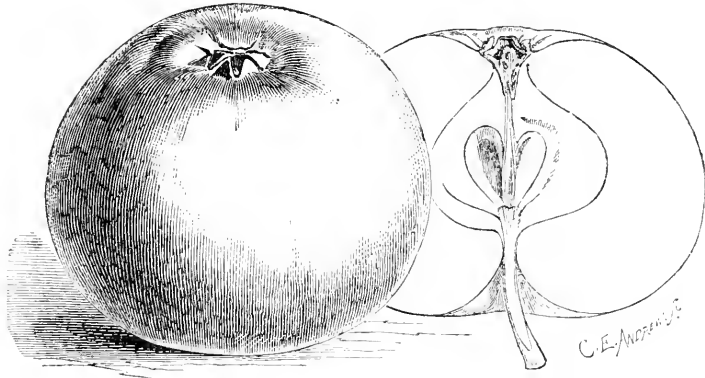
*Stourton.*

### MRS. WARD APPLE.

**A** MOST highly meritorious seedling, raised by Mr. Nathaniel Lawrence, nurseryman, of Chatteris, in Cambridgeshire, from the old Scarlet Nonpareil. It has the outward appearance and form of the Court of Wick, with the beautifully flushed cheek of its parent, the old and favourite Scarlet Nonpareil, and may be thus described :—Fruit below medium size, roundish-ovate, compressed at the ends, very even and regular in outline, skin of a warm yellow or orange on the shaded side ; deeply flushed with scarlet



on the side next the sun, with here and there a little russet, especially about the eye and the stalk. Eye open, set in a shallow, evenly formed cavity. Stalk rather long, slender, deeply set. Flesh pale yellow, firm, juicy. Flavour rich, with a brisk sprightly acid, particularly pleasant and agreeable. It is in season from November to March.



This is in all respects one of the nicest little winter dessert apples we have ever tasted, so firm and yet so melting and juicy, so briskly acid, and yet rich and sweet. Beautiful in form and colour, like its parent, but in comparison with that much improved in flavour, we heartily welcome it as a pleasant addition to our winter dessert fruits.

A. F. B.

### RHODODENDRON PONTICUM.

**T**HIS is one of the most useful of plants for intermingling with other shrubs in the borders of or filling up blank spaces in shrubberies which are intended both for a screen and an ornament. No plant is more accommodating in its habits, as it will flourish in almost any soil which is free from lime, whether it be sand, or loam, or decayed tree leaves, or clay, or any combination of them. In pure alluvial bog soils, however, it will not flourish, as however rich and good-looking such soils may appear, they have no tenacity, and will not hang together sufficiently for the fibrous roots to take hold of them; but if mixed with strong loam, or even lumps of very stiff clay, with some sand, the plants will grow luxuriantly.

Perhaps the soil which it most delights in is a mixture of strong loam and the débris of tree leaves and rotten spray which accumulates in woods. It is therefore peculiarly well adapted for planting in game covers, where evergreens are desirable, as it spreads well and widely over the surface of the ground, and forms most excellent shelter. In this respect, one of its greatest recommendations is that rabbits and hares never touch it. Some years ago Mr. Wells planted a large bank, of about a couple of acres in extent, with this plant, a few

coniferous trees being distributed throughout. The soil was composed almost entirely of fine sand, covered with grass and common fern, which was trenched in, and the plants, a foot high, put in at from 8 ft. to 10 ft. apart. They are now that much in height, and completely cover the ground. On the upper part of the bank, where the sand was poorest, they grow more compactly, and do not spread so much, but the seed being distributed over the surface, comes up by thousands. This bank is commanded by an eminence opposite, and when the plants are in bloom they make a very grand show. Now, all over this bank the rabbits have free leave and licence, and they burrow and breed by hundreds, yet I have never found the leaves nibbled or the bark gnawed off. This is undoubtedly owing to their instinct teaching them that the plant is poisonous, for that such is the case we had ample proof here the winter before last, when, during the prevalence of deep snow, some sheep, which had been left in the park overnight and not fed, appear to have got their heads through the fence, and eaten a considerable quantity of the leaves from the trees on the bank. In the morning two were very ill, and shortly afterwards died, and on being opened, their stomachs were found to be full of *Rhododendron* leaves, which, in the opinion of the veterinary surgeon, had caused their death. Some others of the flock were sick, but eventually recovered. It is my belief that hunger alone drove them to feed on the leaves, because for years the plants could have been reached by the cattle, yet I never saw any touched before.


Many persons appear to have been deterred from planting this useful shrub to any extent, because they have imbibed an idea that peat is necessary to its successful cultivation, but this is one of the "fallacies of the faculty"; and the mistake has arisen from observing the requirements of a different class of *Rhododendrons*, viz., those which come from India, and which certainly are very particular as to soil, it being found that a considerable amount of lumpy fibrous peat in the soil is very conducive to their welfare. Hence it came to be supposed that all *Rhododendrons* required similar soil. The bright and beautiful colours which were the great attraction in the Indian varieties, however, set the hybridizers to work, and so successful have they been, that by continual crossings with the hardier varieties from different parts of the world, such as *R. ponticum*, *caucasicum*, *maximum*, and *catawbiense*, they have stamped a vast variety of shades of beautiful colours upon a race which, for hardiness and usefulness in garden decoration, cannot be excelled in any other genus of plants. Better than all, these modern hybrids are by no means so particular as to soil, and many of the best of them may be very successfully grown in a mixture of fibry loam, decayed leaves, and sand intermixed. The foliage and manner of growth will generally indicate how much of the Indian type prevails in the variety, and in proportion as that type is predominant, so will the plant be particular as to soil. Where fibrous peat can be procured as easily as other soils, it may be used with great advantage, but the want of it need not deter cultivators from planting a large assortment of

beautiful varieties calculated to flourish in any soil which is free from lime, and of an open lumpy texture, and neither spongy nor too finely comminuted.

*Redleaf.*

JOHN COX.

## DOMESTIC AIDS TO GARDEN CULTURE.

 HAVE stated (p. 4) that the Aid to which I refer, favours the development of sweetness and beauty, and yet is in solemn league with death. It is time to state what it is that can possibly possess such apparently paradoxical qualities. It is House Sewage! This in the right place strengthens and beautifies life: in the wrong, it is heavily freighted with the germs of death. By accepting its constant assistance in our gardens, we shall not only impart greater vigour and richer beauty to our favourite flowers, but at the same time strengthen and lengthen our own lives. To explain all this, it will be necessary to advert briefly to a few first principles. These will constitute the theory of my subject, and will lay, I trust, an intelligible basis for a most useful and profitable practice, that it will be my aim hereinafter to enforce.

It must be obvious to every one that, notwithstanding all the cleanliness and beauty that are in the world, there is also much of their opposites. Animal life cannot be sustained without the production of filth or dead matter. Life can only be sustained by the sacrificing of other life. The principle of vicariousness is the law of the universe. We, ourselves, can only live through the ministry of death. Not only do life and death co-exist, and combat each other, as all admit, but they likewise sustain the scarcely suspected relation of cause and effect. It is hard to say, indeed, whether death is more inimical than helpful to life. The two great types of life—the vegetable and animal—seem to work in this matter in opposite directions. The vegetable changes dead matter into living; the animal, living into dead. Our whole life is a reduction of living substances into dead débris. Many of our employments increase the supply, and our life is often enfeebled, frequently sacrificed, by an excessive production of dead matter. Like rough, harsh grit between cog-wheels, DIRT hampers, rasps, stops, or breaks down the delicate machinery of life.

The production of such matters being the necessary concomitant of animal life, one of our chief duties is to see to their instant removal from our homes, where they can only work to render death, to our gardens, where they can be turned into a new life of beauty and glory. And it is a startling fact, that there is no other efficient way of getting rid of dead matter, than Nature's mode of converting it into living substance. Man has been slow to learn this lesson, and, in fact, has not yet learned it. He has tried all other modes. He has converted the great oceans of air and water into world-wide sewers to carry off his impurities, but all in vain; for, Nemesis-like, they have returned to lay fresh siege to his life. He has scattered them to the four winds of heaven on the wings of fire, and occasionally, as in the Plague of London, it has licked up lingering in-

fection, and insured him against a special malady: but at best, fire is an extravagant and dangerous purifier, and is altogether inapplicable to the case before us. The air has been the most favoured outlet, and it is one of the most efficient agents for the removal of dead matter. It never wearies of its burdens, never rests from its labours. It bends lowly over every stagnant pool, polluted river, muddy ditch, and crowded town, and bears off in its bosom a load of dead matter, which it carries far away over corn-fields, flowery meads, gardens, and leafy dells, and through deep dark forests, until relieved of its load by the hungry plants that steal it on its passage. Unfortunately, however, the dead matter renders the carrier itself impure; and the impure air does not simply meet with vegetable, but also with human mouths, on its journey. Neither are these endowed with a power of selection. The whole air, pure and impure, rushes headlong into the latter, and permeates through the entire system. The brain—the seat of life and thought—is paralyzed or poisoned by that sewage that has been permitted to reek out its filth into the air. Who would not shrink with horror from swallowing a mouthful of it? and yet it enters our bodies much more completely through the medium of the air, than if we thrust it into our stomachs. Common cleanliness, and our common safety, alike demand that the air, the very breath of our life, be no longer converted into a common sewer.

*Hardwicke.*

D. T. FISH.

### NEW FLORISTS' FLOWERS.

**T**HOREMOST among these, for its vividness of colour, its great size, and its boldness of outline, must be placed the *Azalea La Superbe*, which was exhibited by Mr. C. Turner, at the meeting of the Floral Committee on the 16th ult., and was awarded a First-Class Certificate; much larger, though not equal in form to *Stella*, it has the great advantage of a glow of heightened colour, being of a deep bright fiery red, the upper segments having a group of small dots of violet; too square in shape to reach the highest perfection of form, it so gains in other respects as to be well worthy the award it received. In point of habit, as far as it could be inferred from a small plant, there was no room for complaint. Messrs. Ivery and Son, of Dorking, sent two new *Azaleas*, which possess considerable merit, viz., *Emma Ivery* and *Rosa Ivery*, both in the way of *Charmer*, but the first-named being of a deeper hue of bright rose, the latter paler. The flowers were of good outline, but rough, and will in all probability be seen better a few weeks hence. The former would give a charming glow of colour as an exhibition variety.

The very fine strains of *Cinerarias* now attainable from seed have, to a great extent, superseded the necessity for named kinds; still Messrs. F. and A. Smith, of Dulwich, who are in the van with new forms of this pleasant spring flower, continue to produce new kinds. At the meeting referred to, this firm obtained a First-Class Certificate for *Royal Purple*, a large, stout, and showy flower, which,

though inclined to reflex somewhat, is nevertheless well proportioned; it is so broadly edged with deep bluish purple as to be almost a self, and has a rather large pale disc, surrounded by a small ring of white, separated from the edging by an intervening line of crimson. A Second-Class Certificate was awarded to another variety named *Ino*, a good-sized and well-formed flower, having a white ground with a narrow margin of bright rose, and a dark disc.

*Hyacinth Hector*, classed as a single blue, but having large, well-shaped, pale lilac-mauve bells, and a greyish light-blue tube, is a fine introduction, being so distinct in colour, and most probably better than either of the new pale-blue introductions of last year; it has a bold and massive spike, while the habit is dwarf and yet vigorous. It was exhibited by Mr. William Paul, and was awarded a First-Class Certificate. *Aulromache* is a somewhat distinct single-red variety, and was also exhibited by Mr. W. Paul. It is of a pale colour, has a good spike, and is of excellent habit.

During a season when early single Tulips are much below the average, it is pleasant to be able to notice a decided novelty, as well as a good addition. This is a broken form of the well-known *Proserpine*, a very fine and somewhat scarce silken rose flower, but in its new character flaked with white. It was exhibited by Messrs. W. Cutbush and Son.

R. D.

To the foregoing may be added two fine *Camellias*—*Kelvingtoniana* and *La Maëstosa*. The former is a grand flower, with bold guard petals, and a tuft of smaller central petals, the flowers large, deep crimson, richly and freely mottled with white. Fine examples of it have been shown at South Kensington, from the garden of C. Keiser, Esq., of Broxbourne. The latter was sent by Mr. Bull, Chelsea, to a subsequent meeting, and is a broad-petaled, smooth flower of fine substance, of a carmine-crimson colour, slightly blotched with white. Both these gained First-Class Certificates; as did also the richly-coloured English seedling *Rose, Duke of Edinburgh*, a cupped flower of a deep shaded crimson, lit up with bright scarlet; it appears to be a vigorous habited Rose, and an acquisition to its class. This came from Messrs. Paul and Son, Cheshunt. A dwarf-habited variety of *Polyanthus Narcissus* named *Bathurst*, shown by Messrs. Veitch and Sons, which has handsome yellow flowers and orange cups, deserves especial mention as a decorative plant, on account of its neat habit; and another variety named *Her Majesty*, shown by Mr. W. Paul, is a great improvement on Bazelman major, and may be specially noted for the same reason.

M.

## RED BIZARRE TULIPS.



SUBJECT which must shortly engage the attention of the florist, is that of the division of the Red Bizarre Tulips from the dark ones. The subject, which I perceive was mooted at p. 156, 1868, is not altogether new, but has been for some years allowed to lie neglected. On looking over some old florists' registers, I find that in 1841, at York, and also at Sheffield, there

was a separate class for these flowers, which at Sheffield run twelve deep. Certainly, the sorts exhibited then would not be tolerated now—indeed, very few of them are cultivated; but looking at the great improvement in this class of flowers, it reflects no credit on florists that they should be allowed to remain neglected at the exhibitions. I hope therefore that we shall see the class of Red Bizarres fairly established this season. In this advanced age I do not see why the “Science of Floriculture” should remain stationary, and its votaries become dormant; but as a class, florists are in many instances rather dogmatical.

We have two classes for the white-ground flowers—the Byblömens and Roses, and there are those who advocate a third for Rosy Byblömens, a class the adoption of which is only a question of time, for there are many fine sorts that we cannot class properly in the other two, and which when young will pass as Roses, but if old are staged with the Byblömens, a state of things which is rather confusing to the ideas of inexperienced amateurs. Mrs. Dixon and Bion, both raised near here by Mr. Butler, and purchased by the late Mr. Dixon, of Manchester, belong to this class, as do many new sorts which are really fine, and worth placing in any choice collection.

In this locality there is more opposition to the Red Bizarres than is found in other districts; and yet one of the most refined tulips we have. Dr. Hardy (Storer’s), belongs to this class; whilst that which rose to such a fabulous price in Holland during the Tulip mania, 5,500 florins, was also of this class, a confused red-flamed Bizarre, which would not now be tolerated on a moderate bed. There are, moreover, several new ones ready to claim the attention of all ardent admirers of this Queen of May.

At the meeting of the South Lancashire Society, at Stockport, on the 6th inst., the subject was mooted, and some discussion on it took place. Mr. Hepworth, of Huddersfield, who is favourable to the adoption of this steadily increasing and improving class, thought it high time that something should be done in the matter; and he hinted that some years ago a class for these Red Bizarres was started in London.

I should be glad to hear or see of others taking up the subject. There are many complaints about the lack of floral information, and no wonder, when some of the more able refuse to lend their aid in its dissemination. We are certain that it is not on account of dear paper or excessive postal charges. It may be that many of the old enthusiastic florists have departed from amongst us, and that the young ones lack that spirit of energy and enterprise which distinguished them, and which is so requisite to make a true florist. There are few young florists to be found at the present time, who would walk eighteen or twenty miles and back in a day to look at a few new flowers and gain a little information, and they care as little about imparting what they do know to others.

Education is to be had in many localities *gratis*, and free libraries are now becoming less rare than formerly, so that the rising generation has many

blessings that were not enjoyed by its predecessors, and if it neglects to avail itself thereof, this must be its own fault. By taking advantage of these opportunities, our younger florists may, however, benefit themselves, and improve the character of our floral information at the same time.

*Winton.*

JOHN WALKER.

## MONTHLY CHRONICLE.

**T**HERE has recently been some discussion in the Gardening papers on the very curious subject of Potato-grafting, with the object of producing graft hybrids. Mr. Taylor, of Fencote, states that the variety called Yorkshire Hero was raised by Mr. Almond, by grafting eyes of the Lapstone kidney into an Ashtop kidney, and that he himself has raised Yorkshire Hybrid and others by a similar process. The following is his mode of operation:—Two sound potatoes of different varieties, whose good qualities it is desired to blend, are selected. From one of them all the eyes are first to be cut out with a sharp knife, and then a piece of the tuber in the form of a wedge or some other convenient shape, this being replaced by a scion of similar shape from the other tuber; the scion should have a good eye or two, nicely sprouted, about half an inch long. The two must be tied firmly together with a piece of bast or string, a couple of lady's hairpins being first run clean through both potatoes to prevent the tie from slipping off, as well as assist in holding them together. The fit must be a good one, and the rinds of each must meet, as in grafting other plants. The operation must be performed quickly, and the grafted set must be planted as soon as possible. It is best to have the trench opened and manured ready to receive the grafted tubers, and to place them therein and cover them with soil as quickly as possible. Some of the grafts may fail, so that it is best to graft a dozen or more. They will produce rounds and kidneys, pink-eyed and mottled, purples and reds, of various shapes and sizes, some early, some late, some large, some small, according to the kinds which are grafted. All the produce, large and small, must be planted the following year, for until the tubers have been grown it cannot be told whether the varieties are early or late. The early ones are easily discovered by the early decay of the foliage. The produce of such as look promising by their shape and general appearance, should be put into separate bags or boxes, so that they may be further grown and proved. Mr. Taylor states that the greatest number of varieties are produced from a kidney grafted with a round, or a round with a kidney. The operation should be performed early in April.

— **N**EVER, except in the bulb-fields of Haarlem, has there been such a brilliant display of Hyacinths as that at the first Spring Show at Kensington on the 13th ult. Even in that favoured bulb-growing region, as we learn from the Dutch growers who came over to witness the competition here,—and who did much towards giving it importance, by subscribing several handsome prizes which led to a spirited competition—even there, such splendid cultivation, and such noble specimens, as those displayed by our champion growers, Paul and Cutbush, are not to be met with. For the chief honours it was, with these growers, a neck-and-neck race throughout.

— **T**HERE is to be an International Exhibition of Gladioli at the Crystal Palace, in the last week of August next. The Crystal Palace Company will, it is announced, contribute £50 towards the prize fund, to which also most of the principal growers, professional and amateur, will subscribe. Some of the French growers have intimated their intention to exhibit.

— **T**HE shoots of the Black Currant have in some localities been affected by a disease resulting in the destruction of the buds, and which is caused by a species of *Acarus* so extremely minute as, when present in quantities, to produce the appearance of white powder. Under a lens of tolerable power they appear like a number of inactive worms or maggots, but under a high power they are found to be accompanied by eggs; and Mr. Berkeley believes that he has also seen within the body of the mite an

egg just ready to be protruded. An acarus of the same type has been found in the papillæform galls so common on the leaves of the Lime; and very similar mites occur in the galls of Willow leaves. The minute acari of the Black Currant vary in size from about 1-250th to 1-140th of an inch in length. There are two setæ at the end of the abdomen, and one on each side, four legs, and a pair of palpi. The abdomen is closely striated with granular lines, which are frequently far more visible in the dead skins than in the living insect. The disease was first observed in Yorkshire about four years since, and has increased rapidly, and seems likely to make the cultivation of the Black Currant very precarious.

— A MONSTER Aroideous plant has recently been met with at Nicaragua by Dr. Seemann, who has sent living specimens to this country. It has a rhizome larger than a man's head, and a peduncle 4 ft. high, and 4 in. in diameter, bearing an upright spathe, which measures 2 ft. in length and 1 ft. 8 in. across. It emits a carrion-like odour. On the outside it is of a dark purplish blue colour; inside it is reddish brown, the part surrounding the spadix being yellowish white. The plant has only one leaf, which measures 13 ft. 8 in. in length, the petiole alone being 10 ft. long. The plant is evidently a "big brother" to the Indian *Amorphophallus*.

— THE *Lonicera fragrantissima* is a most desirable evergreen shrub for a sunny nook on a conservative wall, and worthy a position in all gardens, whether large or small. In mild seasons it will bloom in such a situation, from November onwards, and its small white flowers are deliciously fragrant. Like all the *Loniceras*, it strikes readily from cuttings. The plant blooms more profusely when spurred in freely.

— THE Myrobalan, or Cherry Plum, is evidently as distinct a species as the Sloe (*Prunus spinosa*), for although many thousands are annually raised from seed to be used as stocks for a few sorts of Plums, which succeed well when grafted on it, no variation in habit is ever seen. There are two or three kinds that vary in the colour of their fruit, one bearing yellow and another greenish-yellow Plums. The latter is common in Belgium, and strikes freely from cuttings in the light peaty soils of that country, where it is called the Mirabelle Plum, and is used for stocks for Plums, Peaches, and Apricots. A Plum introduced some years since to Chiswick from the Himalayas as the original form of the Green Gage, proved to be the Cherry Plum.

— THE Golden Russet Pearmain is a very fine Apple, raised in the neighbourhood of Crewkerne, by R. Donne, Esq. It is one of the best in cultivation, equalling in flavour Cox's Orange Pippin, Ribston Pippin, and Sykehouse Russet. The fruit is conical, or Pearmain-shaped, of medium size, and of a fine lemon-yellow, tinged and dotted with vermilion on the sunny side, and covered with patches and tracings of rough russet, especially around the eye. The flesh is yellowish-white, rich, juicy, and aromatic, and it is altogether a delicious Apple for the season, December to March.

— A MUSCAT of Alexandria Vine, at Castle Kennedy, has no artificial heat given to it up to the time of its starting into growth of its own accord. Under these conditions it succeeds perfectly, Mr. Fowler having tried the plan for several years, and excepting some Muscats at Archerfield, he finds that it finishes its berries better than any he ever saw. This fact is worth knowing, for amateurs are afraid to introduce this sort, owing to the heat and forcing it is said to require; while Mr. Fowler grows it in a house devoted to Lady Downe's Seedling, which only requires a little artificial heat in the atmosphere to consume damp, and ripen the wood.

### Obituary.

— MR. SEWARD SNOW died on the 10th of March, in his 76th year, at Wrest Park, Bedfordshire. For many years he had been a successful exhibitor at the metropolitan shows. He was also the raiser of several excellent vegetables, especially Snow's Superb Winter White Broccoli, a variety which is highly esteemed throughout Great Britain. Mr. Snow reintroduced, under the name of Muscat Hamburg, the fine Black Muscat of Alexandria Grape, which had almost grown out of cultivation.







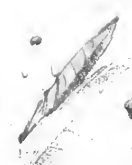
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## NEW HARDY AZALEAS.

WITH AN ILLUSTRATION.

**H**ARDY Azaleas are amongst the sweetest and most brilliant of the flowering American shrubs which render our garden scenes so enchanting in the merry month of May. Forty years ago the original species and their immediate progeny, might be seen yielding their masses of golden and fiery and roseate hue, to lighten the dark masses of evergreen Rhododendrons with which, then as now, they were commonly associated. After that the Continental cultivators took up the improvement of the Azalea, and the Ghent varieties of some twenty years since revived for a while its popularity; but with the onward march of fashion it seems to have been again left in the rear, and for the most part unheeded by the masses, though not uncared for by those who knew its worth. Hence we were not surprised, some two or three years since, on visiting the Knaphill Nurseries, one of the earlier and still one of the most pleasant homes of "American plants," to find that the breeding of improved Azaleas had been for some time going on quietly, and that, as a result, a number of novelties of sterling merit had been obtained. It is two of these which we now figure, by permission of Mr. Anthony Waterer.

These grand acquisitions, which occur in considerable variety of colouring, are, as we understand, partly the result of a judicious intermixture of *sinensis* blood, and partly the result of selection and of seeding on from the best varieties. Not only the quality of the flowers but the habit of the plant has been cared for, and in this way have been secured varieties which combine with larger, more brilliant, and better-shaped flowers, a vigour of growth which enables them to develop their blossoms freely. The new sorts have this further recommendation, that instead of blooming early, and having in great measure faded before their associates the Rhododendrons come into flower, they bloom contemporaneously with the latter, and it need scarcely be pointed out that their brilliant tints, of orange and red especially, are particularly valuable from the fine contrast they present with the colours familiar amongst Rhododendrons. Their early blooming habit was in fact one of the chief drawbacks of the primitive Azaleas of our boyhood, and this is now in great measure removed by the introduction of Mr. Waterer's new varieties.

We may also mention that in the same collection are some wonderfully fine double-flowered varieties. One which we particularly noticed, an exquisite shaded orange, was much brighter and more attractive than the well-known Van Houttei.

Our fig. 1 on the annexed plate represents a charming variety, named **NANCY WATERER**. It is of vigorous growth, producing contemporaneously with its leaves, fine trusses of deep orange-yellow flowers, which are larger and richer coloured than in any yellow previously obtained, the colouring being most intense in the three upper segments. In this, the flowers are fully two inches across,

and sweet-scented. Fig. 2 shows the variety called *BESSIE HOLDAWAY*, a lovely flower, sweet as violets, but scarcely so large as the foregoing, the flowers being about an inch and three-quarters broad, and of a clear, lively rose-colour, the upper segment being freely spotted with bright orange. Many other equally beautiful forms have been obtained, and as the process is still going on, we may expect in the future to see the Hardy Azalea again occupying a very conspicuous place in our American gardens.

M.

### BOUGAINVILLEA SPECIOSA.

**T**HIS plant is certainly, when properly treated, one of the most lovely of all stove climbers. A few days since I visited Sandbeck Hall, the seat of the Earl of Scarborough, and I then had the pleasure of seeing this Bougainvillea in the highest state of perfection. The plant was growing in a 15-in. pot, and was trained along the back and side of the stove, covering a space of 40 ft. by 10 ft., and it was loaded with its festoons of bracts, some of them four feet in length,—indeed, it was a perfect mass of flowers, and the bunches of buds could be counted by the thousand. Mr. Hall states that he finds no difficulty in flowering it, providing the wood of last year's growth is thoroughly ripened, and that the plant receives absolute winter rest by withholding water, and is then gradually started into growth, and sparingly watered until the bracts appear, when it is necessary that it should have a plentiful supply.

Osberton.

E. BENNETT.

### FLORICULTURAL MILLINERY.

**F**LORICULTURAL MILLINERY! We can find no better term to express our idea of a practice very commonly followed with regard to plants and flowers grown for exhibition, and on which we invite discussion. It is well known to practical horticulturists that most of the plants and flowers seen at our flower shows, are more or less "dressed." Is this legitimate or not? and if legitimate, is it desirable? Legitimate we think it is, *to a certain extent*, although, perhaps, no two individuals would draw the line precisely in the same place. It is not, that we are aware of, absolutely forbidden by any Society, and precedent and usage may be urged in its justification. Desirable we think it is not, and that for various reasons which we shall state hereafter.

Every cultivator who has grown plants and flowers for exhibition knows well that success depends chiefly on two fundamental points.—(1) *Skill in production*, which premises knowledge and judgment in the choice and growth of individual plants and flowers; and (2) *Taste and lightness of finger in the arrangement and dressing*, much the same sort of skill as is required in tricking out a cap or a bonnet, and hence the term we have chosen to express it—Floricultural Millinery. Now, these two points, which are essentially distinct, are not in our judgment of

nearly equal weight, the "skill" in production being of far more importance than the "taste and lightness of finger" in the arrangement or dressing. Yet our experience, derived from observation, compels us to say that we think the "finish and symmetry," which are due in great measure to "taste and lightness of finger," often exert an undue influence. The eye is pleased by it, and the judgment does not travel back so far as to inquire concerning the whence and whither.

In making the above comparison we are well aware that a cap or a bonnet has to be made by hand—it cannot be grown, it is the work of an hour. On the contrary, a plant or flower must be grown by a long and thoughtful process. Produce, we say, by the best means of growth in your power the finest plants and flowers you can, but having done this, rest satisfied; do not supplement the efforts of a year's thought and labour, by the transient arts of millinery.

We are free to admit that a plant must be tied up, and this is better done neatly and with taste, than in a careless or bungling manner. Flowers, too, should be so placed in their stands that they may be well seen, and the colours should be so assorted and arranged that each may enhance rather than detract from the beauty and effect of its neighbour. Thus far we concede—nay, consider necessary and commendable. But the little tricks resorted to, to make a plant or flower look other or better than it really is, find no sympathy in our nature. The flattening of Pansies, by pressure, to meet the florist's canon that Pansies should be flat; the gumming and brushing of the petals of Pelargoniums; the artificial packing of the petals of Carnations; the building-up of Dahlias; the pinning of Hyacinths—all these practices are, in our judgment, of questionable taste, and of even more questionable honesty. By the use of them we may approach more nearly to the florist's ideal, but we are reaching that ideal by trickery and deception, rather than by horticultural skill and honest labour.

Do not let us be misunderstood. We are not here questioning the florist's canons, most of which we admit to be founded on common sense and correct taste; it is the means often adopted to reach them, that we take up the pen to do battle with. Is this "millinery" desirable? We think not, and on other grounds than those we have already advanced. It has always appeared to us that the decline in the cultivation of Florists' flowers, or in what used to be popularly so called, is due in some measure to this floricultural millinery. A judge may be hoodwinked, a competitor may be jockeyed by it. But the public—how does it affect them? They view, admire, and purchase from these highly-dressed flowers; but in their hands, even under the most skilful cultivation, the antecedents are never realized. Hence disappointment ensues, a suspicion of deception is awakened, discouragement is the result, and the flowers themselves go out of fashion.

We cannot but think, then, that in justice to the public, and in the interests of exhibitors themselves, this is a state of things which it is most desirable to

remedy. And the remedy lies with the judges. If exhibitors find the arts above hinted at, to tell with the judges, they will continue to practise them. Perhaps no rules of any Society can be made clear or stringent enough to ensure the desired end. A Horticultural Society might justly intimate to exhibitors that the judges would be instructed to recognize the skill of the horticulturist, rather than the *mode* of the artist; and if the judges carried out such instructions, this would doubtless soon work a beneficial change. P.

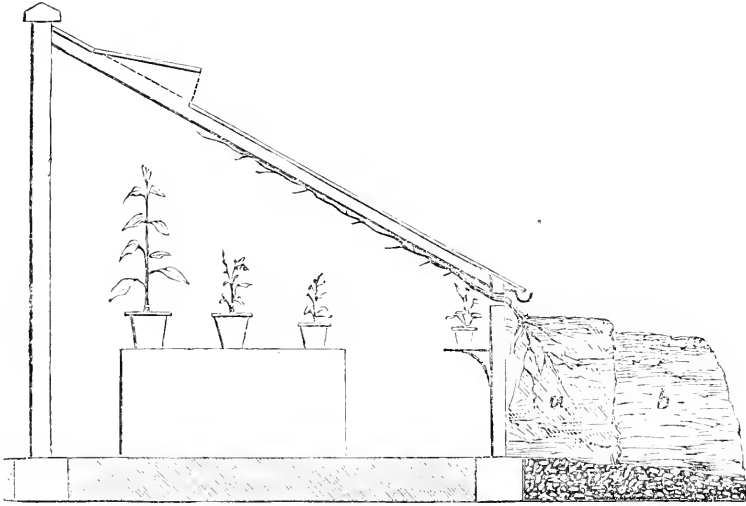
### IMPROMPTU BORDERS FOR SMALL VINERIES.

WHATEVER may tend to increase the interest which the amateur takes in his garden, is a proper subject for the pages of the FLORIST AND POMOLOGIST. I have, therefore, no hesitation in offering the following remarks for the benefit of this class of readers, as well as for those who have to force early with but limited convenience. Many persons who take an interest in their only structure—whether that be called greenhouse, stove, or pit, would, there is little doubt, gladly add the luxury, call it hobby, if you will, of growing a few Grapes also, if this could be done without so great an outlay as is ordinarily required. This is especially the case in those frequent instances wherein no better security than “tenant-right” exists.

I wish it to be understood at the outset that I am no advocate for mixing up Vine and Plant culture in a confused and undefinable medley, and with no second structure at hand in which, at certain critical and necessary periods, as the seasons follow their courses, the various odds and ends of plants can be stored away. It is also needless for me to say that I am not an advocate for makeshift vine borders, excepting in such instances as I have already indicated. The simple method to which I now draw attention is by no means new. It is, however, one well adapted for forcing very early grapes, in cases where the best means do not exist. Besides, as opportunity or inclination may incline, it is capable of extension at the will of the possessor.

Against any ordinary lean-to or span-roofed house,—in the case of the latter it may be placed on either side,—a lining, so to speak, is to be formed of good yellow maiden loam, or surface pasturage, bone-dust, well-decomposed spit manure, and the ordinary rich and staple materials, needful for the formation of a sound vine border, as shown at *a*. There must be no risk of its becoming sour from the presence of excessive moisture. This lining or border should be at least from 4 ft. to 5 ft. deep, and if possible, not less than 3 ft. or 4 ft. in width. The outer side is kept up very neatly, by using good square turves, packed up, brick-like, so as to form an even surface outside. What I mean will be seen by a reference to the figure. In this mass of soil the roots of the vines are to be planted, the stems being carried through the necessary openings into the house. Artificial heat, to assist in early forcing, may be readily applied by the simple means of a second lining, composed of the necessary thickness of fermenting

material, as shown at *b*. Such a lining, not necessarily of fermenting material, may also be applied as a protection against the frosts of winter, when the vines are not in action; while in the summer months it will serve as a protection against the excessive aridity of the air, or the too free evaporation of the moisture contained within the small compass of the border itself. It should be unnecessary to point out, that a most perfect drainage should be provided, so as



to carry off all excessive ground-moisture; and that during the summer months, such a supply of water should be afforded, as to compensate in some degree for the want of more extended scope for the roots, owing to the narrow or upright form of the border. The present will be found a good time in which to construct and plant such a border with young canes to form strong wood for next season's bearing. The soil, which must be moderately dry, should be well trodden or rammed down in the process of packing, so that due firmness of the mass may be ensured.

*Digswell.*

WILLIAM EARLEY.

### WATERLOO BROCCOLI.

**T**HIS is decidedly a first-class late protecting Broccoli, and most desirable where Broccoli is always in demand. I believe the stock is in the hands of the Messrs. Stuart and Mein, of Kelso, who originally obtained it from the late lamented Mr. Stevenson, of Lambton Castle. Notwithstanding such an extraordinary season as the one we experienced last year, especially as regards the Brassica family, the few plants I managed to save of the Waterloo more than satisfy my most sanguine expectations, as regards a late Broccoli.

I generally grow a few of the newest kinds, as well as all the good old varieties, and I find that, as a late Broccoli, Waterloo is quite distinct from all I have hitherto grown. This enhances its value, inasmuch as it fills up a most important gap in the supplies, before Cauliflowers are ready for cutting. Let me, then, advise all who value a good late protecting Broccoli, to secure a packet of the Waterloo, for I feel confident it will not disappoint them.

*Wrotham Park, Barnet.*

JOHN EDLINGTON.

### DOMESTIC AIDS TO GARDEN CULTURE.

NO sooner did men become aware of the danger of allowing sewage to be lifted into the air as noted at p. 92, than they decided to cast it into the water. Convinced of the danger of polluting the atmosphere, they jumped to the conclusion that their safety lay in fouling the rivers; and the great ocean of waters was thenceforth contaminated in two ways. The first was by sending the sewage down into the earth. Immense dead wells, or cesspools, were formed, from which the dirty water percolated into the springs, polluting our drinking fountains at their hidden sources deep down in the bowels of the earth. This practice is still very generally adopted both in town and country, and a more murderous disposition of sewage could not be devised by the greatest foe of the human race. It is simply poisoning our wells on a gigantic scale, and when we attempt to draw from them the pure water of life, we get a death-potion, prepared by our own ignorance and folly.

But running water has been made man's great scavenger for the removal of sewage and other impurities. Every running stream and brimming rivalet rushes forth to convict man of folly and cruelty in compelling them, the great emblems of purity, to do penance as the removers of filth. The river leaps forth from its mountain home pure, bright, and sparkling as sunny childhood. It is instantly seized hold of by man, tortured through machinery, tormented with mills and paddle-wheels, cut into shreds by boats and ships, forced to pass among myriads of filthy rags, rubbed through labyrinths of soiled linen, and scrubbed over acres of dirty floors, degraded to the rank of a common maid-of-all-work, and finally driven down to its great home in the ocean, laden with the filth of a village, a kingdom, or a continent. Fortunately for us, part of this dirt is deposited on the journey; for being heavier than water, it falls to the bottom, and is covered over with gravel, sand, or clean earth,—all good deodorizers, that render the dangerous deposit comparatively innocuous. But every sudden increase of volume in the water threatens to *restir* the offensive mass, and revive its noxious elements into new life. Besides, very much of the sewage is soluble in water, which therefore becomes impregnated with it, and thus disease and death follow in the track of our running waters. Instead of being what they were intended, health-filled arteries of cleanliness and purity, the impure water which



flows along them frequently undergoes putrefaction, and is converted into a black, frothy, pasty fluid, pregnant with disease and death.

And if such has been the state of our running streams, the condition of our stagnant pools and ponds has been even worse. So crying has the evil become, that the authority of new laws has been invoked to abate the dangerous nuisance. But while it is easy to enforce the law in large towns, it will be difficult to bring it to bear upon small villages and isolated dwellings; and the inhabitants of towns are now loudly complaining that their rivers are polluted higher up, in the rural districts beyond their control. This is undoubtedly the case. It must be obvious that if the ditches and streamlets are permitted to be fouled, the river that receives them all cannot be made clean. Hence the importance, and the appositeness of here discussing this great national subject.

It has been said that if every housekeeper kept his own pavement swept, the entire pathway would be cleansed. It is equally certain that if every home utilized its own sewage, the water of the world would be preserved pure. Possibly, in the end, the laws of health may be so extended as to include every dwelling. Only thus can our rivers be thoroughly preserved from pollution. Were the proprietors of gardens, however, wise in time, such laws would never be needed. A thorough knowledge of the nature and properties of sewage, and an enlightened regard to their own interests, would divert the whole of it from the water, and place it on the land. The earth would speedily turn it to good account, and afford conclusive evidence that it provided the only safe and interest-paying bank for the sure keeping and profitable investment of this valuable deposit.

*Hardwicke House.*

D. T. FISH.

## BEDDING PELARGONIUMS.

FROM the Royal Horticultural Society's *Journal* we abstract the following classified list of Pelargoniums tried at Chiswick, and reported on as having obtained First-Class Certificates in 1868. At this season, when selections are being made for planting out in the summer beds, this information will, no doubt, be acceptable to many readers:—

§ I.—LEAVES SELF-COLOURED (P. *inquans* type).

\* *Leaves green—Flowers single, round-petaled.*

1. *Flowers scarlet:—*

*Punch.*—Vigorous; flowers bold, bright, abundant. 1st class confirmed.

*St. George.*—Vigorous, erect; flowers deep crimson-scarlet. 1st class.

*Warrior.*—Vigorous; flowers large, bright, in the way of *Punch*. 1st class confirmed.

2. *Flowers cerise or rosy-scarlet:—*

*Lady Middleton.*—Moderately vigorous; flowers bright rosy-scarlet. 1st class (1865).

3. *Flowers rose-pink:—*

*Christine.*—Moderately vigorous; flowers clear rose-pink. 1st class confirmed.

\*\* *Leaves green—Flowers single, narrower-petaled (Nosegays).*

*Orange Nosegay.*—Straggling habit; flowers orange-scarlet. 1st class (1866).

\* \* \* *Leaves green—Flowers double.*

*Gloire de Nancy.*—Vigorous, flowers full double, in close large trusses, rosy-scarlet. 1st class confirmed.

\* \* \* \* *Leaves golden or yellow-green.*

*Creed's Seedling.*—Compact-growing; leaves yellow-green; flowers deep opaque scarlet. 1st class (1866).

*International.*—Dwarf, moderately vigorous; leaves flat, yellowish-green; flowers bright deep rose, free. 1st class.

*Golden Superb Nosegay.*—Dwarf vigorous habit; leaves large, flat, yellowish; flowers dark crimson-scarlet. 1st class.

## § II.—LEAVES MARGINATELY VARIEGATED.

\* *Margins pure white.*

*Albion's Cliffs.*—Free spreading habit; flowers light scarlet. 1st class.

*Castlemilk.*—Vigorous spreading habit; leaves with broad edge; flowers scarlet. 1st class confirmed.

*Mountain of Snow.*—Moderately vigorous spreading habit; leaves with broad edge, effective; flowers light scarlet. 1st class.

\*\* *Margins creamy white.*

*Flower of Spring.*—Compact moderate growth; leaves with a broad edge; flowers scarlet, of fine quality. 1st class confirmed.

*Snowdrop.*—Moderately vigorous; leaves with creamy edge; flowers scarlet. 1st class.

\* \* \* *Margins yellow-green or golden.*

*Crystal Palace Gem.*—Dwarfish, free growth; leaves yellow-green, with dark-green radiate centre; flowers rosy-scarlet. 1st class confirmed.

*Unique.*—Of the general character of Golden Chain, but apparently of freer growth; leaves with a green, radiating centre, and golden edge. 1st class.

## § III.—LEAVES ZONATE (P. zonale type).

\* *Leaves with green margin and disc—Flowers round-petaled.*

### 1. *Flowers scarlet:—*

*Aurora.*—Dwarf, compact habit, about 6 inches high; dull zone; flowers large, clear light scarlet; good for edging. 1st class.

*Etna.*—Moderately vigorous; dull zone; flowers large, clear scarlet. 1st class.

*Glorious.*—Dwarf, compact; leaves small; flowers abundant, large, clear intense scarlet. 1st class.

*Glow.*—Dwarf, compact in habit; leaves small, with dull zone; flowers large, clear orange-scarlet. 1st class.

*Mons. G. Natchet.*—Moderately vigorous; flowers of moderate size, in fine trusses. 1st class.

*Sambo.*—Moderately vigorous, erect; leaves lobed with dull zone; flowers small, dark crimson-scarlet, distinct. 1st class confirmed.

### 2. *Flowers cerise or rosy-scarlet:—*

*Ephraim.*—Vigorous; leaves with dark zone; flowers soft salmon-rose, fine form, resembling Lucius, but with more pink in the colour. 1st class.

*Alfred.*—Moderately vigorous, erect habit; flowers soft rosy-scarlet, the colour of Lucius, fine and free. 1st class.

*Excellent.*—Compact habit; leaves with dull zone; flowers light red or salmon-scarlet, very free. 1st class confirmed.

*Madame Madeleine.*—Moderately vigorous; leaves with dark zone; flowers in fine trusses, beautiful rosy-scarlet, with white eye. 1st class confirmed.

*Provost.*—Moderately vigorous; leaves with dull zone; flowers soft rosy-scarlet, large, well formed, and freely produced. 1st class confirmed.

*Regalia.*—Dwarf, compact habit; leaves small; flowers large, of fine shape, rosy-scarlet; in the way of Roi d'Italie. 1st class.

### 3. *Flowers rose-pink:—*

*Blue Bell.*—Moderately vigorous; leaves with dull deep-tinted zone distant from the margin; flowers large, of fine form, in bold trusses, of a deep bluish-tinted rose-pink, with white eye. 1st class; the gem of the season.

*Rose Rendatler.*—Moderately vigorous; leaves with dull zone; flowers rose-pink, the upper petals with white blotches, free. 1st class confirmed.

4. *Flowers salmon-coloured* :—

*Jean Valjeans*.—Moderately vigorous; leaves dark-zoned; flowers bright clear salmon-colour, in good trusses. 1st class.

*Seraph*.—Moderately vigorous; leaves with deep broad almost marginal zone; flowers fine, freely produced, salmon-colour, with white eye. 1st class.

5. *Flowers oculate* :—

*Eugénie Mezard*.—Moderately vigorous; leaves flat, with dark zone; flowers blush-white, with deep salmon eye. 1st class (1865).

*Madame Verlé*.—Moderately vigorous; leaves with dark zone; flowers white, with pale salmon eye; fine form. 1st class (1867).

6. *Flowers white* :—

*La Vestale*.—Moderately vigorous; leaves with dull zone; flowers white, free, pure under glass, but suffused with blush out of doors. 1st class. The best *white* for pot-culture.

*Madame Martha Vincent*.—Vigorous; leaves dull-zoned; flowers blush-white. 1st class (1867).

*Purity*.—Moderately vigorous; leaves dull-zoned; flowers blush-white. 1st class (1867).

\*\* *Leaves with green margin and disc*—*Flowers narrower-petaled (Nosegays)*.

† *True Nosegays*.

1. *Flowers scarlet or crimson* :—

*Bayard*.—Dwarfish and free-growing; leaves lobed, dull-zoned; flowers crimson-scarlet, in large trusses. 1st class.

*Hon. Gathorne Hardy*.—Moderately vigorous; leaves dull-zoned; flowers large, in ample trusses, bright crimson-scarlet; brighter and larger-flowered than *Stella*. 1st class.

*The Sultan*.—Robust, close-habited; leaves faintly zoned; flowers free, showy, bright red, dashed with orange. 1st class.

*Waltham Seedling*.—Moderately vigorous; leaves with faint zone; flowers rich crimson-scarlet; a fine and free-growing variety. 1st class confirmed.

2. *Flowers rosy-scarlet* :—

*Le Grand*.—Moderately vigorous; leaves with dull zone; flowers large, rosy-scarlet, in bold trusses. 1st class confirmed.

3. *Flowers salmon-coloured* :—

*Baron de Stael*.—Dwarf, compact habit; leaves dark-zoned; flowers rosy-salmon; free-flowering, suitable for edgings. 1st class.

†† *Semi-Nosegays*.

*Chilwell Beauty*.—Vigorous; leaves faintly zoned; flowers deep rose. Too nearly resembling *Dr. Hogg* in the flowers, but paler in the zone. 1st class.

*Comet*.—Vigorous; leaves lobed, dark-zoned; flowers in large trusses, dense and opaque bright orange-scarlet, showy. 1st class.

*Countess of Strathmore*.—Vigorous spreading habit; leaves lobed, faintly zoned; flowers scarlet, having a slight rosy tinge, in fine trusses. 1st class.

*Eclat*.—Vigorous spreading habit; leaves with dull zone; flowers in large trusses, large, dark rosy-scarlet. 1st class.

*King of Nosegays*.—Moderately vigorous; leaves with dull zone; flowers large, freely produced, light scarlet. 1st class.

*Mrs. Menzies*.—Moderately vigorous; leaves with dull deep zone; flowers free, rosy-pink, in fine trusses. 1st class.

\*\*\* *Leaves with green margin and marbled disc*.

*Sheen Rival*.—Moderately vigorous; leaves marbled with light green, and dark zoned; flowers in fine trusses, bright light scarlet. 1st class (1865).

\*\*\*\* *Leaves with yellow-green or golden margin and disc*.

*Beauty*.—Close habit; leaves yellow-green, with well-defined red-brown zone; flowers soft deep rose, affording a good contrast to the foliage. 1st class confirmed.

*Beauty of Calderdale*.—Vigorous; leaves large, yellowish-green, with a broad, dark, conspicuous zone; flowers scarlet; effective from its bold zone. 1st class.

*Kentish Hero*.—Free, bright, and vigorous; leaves yellow, with well-defined, chocolate-red, feathered zone; flowers rosy-scarlet. 1st class.

*Mrs. J. Todd*.—Compact habit; leaves yellow, with broadish red-brown zone, not very evenly marked; flowers rose colour. 1st class.

*James Richards*.—Vigorous; leaves yellow with dark zone, effective; flowers bold scarlet, free. 1st class.

*Master Leonard*.—Neat and moderately vigorous habit; leaves painted, yellow-green, flaked here and there with dark-green, and having a broad and well-defined zone of reddish brown, shaded with darker brown; flowers deep red. 1st class.

\* \* \* *Leaves with golden margin, more or less green in the disc.*

*Lady Cullum*.—Free and moderately vigorous; leaves yellow-edged, with broad, deep-red zone. 1st class.

*Mrs. E. S. Constable*.—Free and moderately vigorous; leaves with yellow margin and dark-red zone. 1st class.

*Mrs. Pollock*.—Vigorous; leaves bold, flat, yellow-edged, with dark-red zone, very effective; flowers scarlet. 1st class confirmed.

*Mrs. Turner*.—Vigorous; leaves large, with broad yellow edge, and broad zone of bright dark red; telling. 1st class.

*Queen Victoria*.—Moderately vigorous; leaves large, flat, yellow-edged, with distinct red zone; flowers scarlet; very effective. 1st class.

\* \* \* *Leaves with silver margin, more or less green in the disc.*

*Glen Eyre Beauty*.—Vigorous; leaves with creamy margin, and broad showy red zone; in the early part of the season superior to *Italia Unita*. 1st class.

*Italia Unita*.—Moderately vigorous spreading habit; leaves creamy white, with distinct rose-pink zone; flowers scarlet. 1st class.

*Velvet Cushion*.—Moderately vigorous; leaves flat, with green centre, creamy margin, and well-marked deep rose zone; very pretty. 1st class.

#### § IV.—LEAVES ANGULATE (*P. peltatum*, *lateripes*, &c.).

*L'Elegante*.—A variegated ivy-leaved variety of trailing habit, and likely to form a pretty edging or basket plant. 1st class.

### THE CALVILLE BLANC APPLE.

YOUR correspondent "C. B. S.," in giving his opinion (p. 77) on the merit of this favourite French Apple, seems to condemn it for getting discoloured and rotten at the core sooner than other late-keeping sorts. This is not my experience with it this year, for it has kept with me very well, being at this date (April 10) quite sound, and likely to keep so for another month. "C. B. S." has another fault to chronicle about it, namely, that it is too dear in the market according to its merit; but he may have heard of the distich,—

"What is the worth of anything,  
But just as much as it will bring?"

The French are quite right in sending us fine specimens of this apple, and if they get 2s. a-piece for them at this time, what does it matter, if the public will buy them and give the price? I would rather give 2s. for a nice Calville Blanc Apple, than a guinea for a monster Belle Angevine Pear, at this season. There is something so delicious in the flavour of the White Calville Apple, and its flesh is so soft and melting, that invalids, or people with bad teeth, can enjoy eating it, as it seems to dissolve in the mouth without much mastication. I grant that some of the fine dessert varieties of English and American Apples have more flavour and aroma, but take the leathery skin and hard flesh of the Ribstone Pippin, Sykehouse Russet, or Golden Harvey, and compare them with

the tender flesh of the Calville Blanc, and note the difference. Another qualification of this apple is, that it is said to be the finest baking sort known; but I cannot confirm this statement from my own experience, as I have never grown enough of it yet on the walls to be able to prove it in this way, it being too valuable as a dessert fruit.

*Welbeck.*

WILLIAM TILLERY.

### SUBSTITUTE FOR GREEN PEAS.

HERE is an old custom still practised in some parts of Cheshire, as well as in other agricultural districts, of cooking new wheat with milk, under the name of Furmety. This milk porridge, or as it would be called in the North, milk broth, was served up at the Wakes which, in the parish that I refer to, took place on the 29th of June, at which time the wheat would generally be ripe, although still soft. I mention this to show that we Britishers, as the Americans call us, have actually eaten green corn cooked after our own fashion. Where Indian corn is cultivated, the green corn is constantly used as we use Green Peas, and there is very little trouble indeed with the cooking, as the corn is shelled in a few minutes, and the dish is then ready for boiling. I am well aware that it is not held "respectable" to copy the manners of the Americans, but the fact stands unquestioned, that the Englishman, when transplanted to America, eats freely of Indian corn, cooked like green peas. Maize or Indian corn has from time immemorial been used as one of the chief bread-stuffs; and we learn from Holy Writ that our Lord's followers plucked the ears of the standing corn, no doubt in the unripe state, much in the same way as we should gather green peas, and ate them in the field.

I have lately observed in an agricultural paper some instructions respecting the cultivation of Maize in this country, in which it was stated that the seed should be sown early in March. This might just chance to be right once, perhaps, in a century—for I have seen the grass scorched by sunshine in March—but this has happened once only in a long lifetime. Some twenty years ago the Forty-Day Maize was freely advertised, and if I recollect aright, we paid 20s. for a small bag of the seed corn, the bag probably containing about two quarts of grain. There were very sensible instructions sent along with the seed. I succeeded in growing it, and it ripened to perfection in the climate of Devon. But the instructions were, that the seeds should not be sown until the earth had got warm, and the May bug, blind beetle, and bumbledor had made their appearance. The instructions further stated, that the seeds were to be sown where they were to remain, as the plant would not succeed well when sown in pots and transplanted.

The seeds must, therefore, be sown about the middle of May, and be left to take care of themselves. The plant is a sturdy-growing variety of Maize, yet a

gigantic grass some 4 or 5 feet high, with fine broad leaves. It is a sub-tropical plant of the easiest culture, and if kept clear of frost, it has little else to fear in ordinary seasons. It requires no prop, like Peas, to support its stem, and will yield abundantly, being a sure cropper. If cottagers throughout the country had at this season a few seeds supplied to them, it would enable them in the course of the summer to compete with one another as to who should grow the best dish of green corn. And when our middle-class families once know the delicacy of this vegetable, it will, I am confident, often be found occupying its place as one of the corner dishes at the festive board.

*Salford.*

ALEX. FORSYTH.

### BEDDING TROPÆOLUMS.

THE past summer, so dry and parching, and consequently, so hostile to the efficiency of so many bedding plants, has, notwithstanding, had its uses, one being that it has taught the value of some of the forms of Bedding Tropæolums for the decoration of the flower garden, especially that of those trailing varieties that soon cover a bed, and, so to speak, spread over it a garment of green foliage, which keeps the soil beneath cool and moist. I was interested in noting during the past summer some of the kinds used for bedding, and which appeared to be particularly adapted for that purpose.

Of the trailing kinds, I select but two, and these quite distinct in character, save in the colour of the flowers, in which respect they much resemble each other. These are Crystal Palace Perfection (Carter & Co.), a kind that, to my thinking, entirely supersedes anything that has gone before it, and which cannot be too highly recommended. It represents the pure Lobbianum type, and was raised on the Crystal Palace grounds; it makes rapid growth, sending out a profusion of long shoots, that hug the ground, so that pegging (except in a very exposed situation) is not required. It really does,—that which some Bedding Tropæolums are said to do, but do not,—throw its flowers clear of the foliage, and the numbers of brilliant orange-scarlet flowers, borne on long stiff flower-stalks, give to a bed a very animated appearance. It is also a durable bedder, both foliage and flowers are so erect and rigid that a heavy rain scarcely dims its lustre; or if it does, so freely does it flower, that the gay raiment of colour is speedily restored. I cordially commend this fine kind, and as a proof of its value it may be stated that it received a first-class certificate from the judges at one of the great shows of the Royal Botanic Society, a year or two ago. Of much more vigorous growth (though none the better in consequence) is Scarlet Gem, also a most useful Bedding Tropæolum. It is a variety that suits the northern and midland districts well, and about some of the big towns of the West Riding of Yorkshire glorious beds of it can be seen during the summer. The foliage and flowers are larger than in the case of the foregoing, the flowers have a deeper hue, and though not so well thrown above the foliage, are not

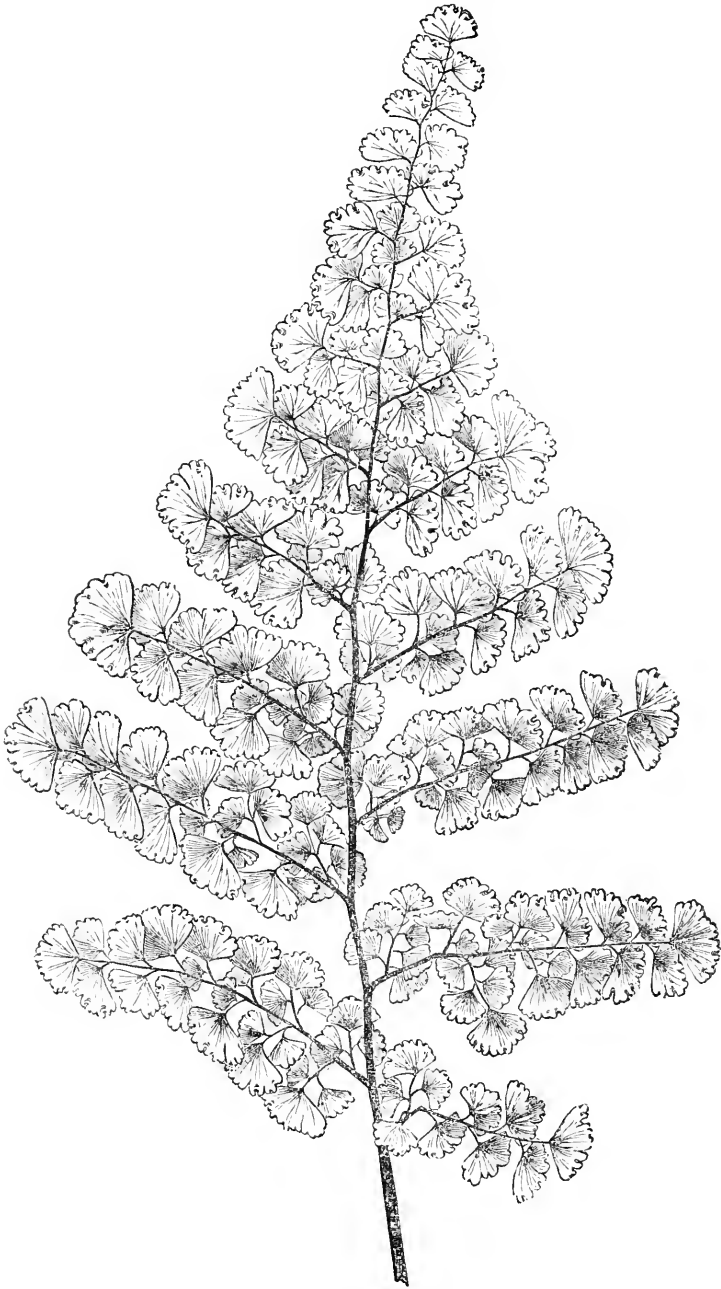
partially hidden, as in the case of some others; it is also a free and continuous bloomer.

Coming now to those of dwarf close habit, I place at the head of them one known as *Tropæolum compactum coccineum*, one which for general purposes can hardly be surpassed. I saw this growing at Chester in July last, and since in other parts of the country, and I have no hesitation in placing it in the front rank as a bedder. The habit, while free, is very compact, and the flowers really borne above the foliage. One called *Advancer* comes very near to this, and I think is scarcely distinct from it. *T. compactum luteum* improved, is similar in habit, but the flowers are yellow, with crimson blotches, and it forms a good contrast to the foregoing. Both of these appear to come from a cross between the *Lobbianum* and *Tom Thumb* sections. Of similar parentage is the *Moor*, another of the compactum strain, with glossy, dark crimson flowers. It is almost too dark for beds, but may be made of service in ribbon borders.

Of the *Tom Thumb* section, a very large-flowered but useful variety is much used at the Promenade Gardens, Great Malvern. It is a marked advance upon the *Scarlet Tom Thumb*, and has more of orange in the colour. *King of Tom Thumbs*, with brilliant dark crimson flowers, is a most useful decorative kind; so is *Tom Thumb cœruleum roseum*, the flowers of which have a lively dash of blue, and in ordinary summer weather it is highly attractive. The fact that the two last-named did each receive a first-class certificate at the hands of the Floral Committee last year, when bedded out at Chiswick, may be taken as safely indicating that they, too, are really useful decorative kinds. They have, nevertheless, the one great fault of the whole of the *Tom Thumb* section, that they are partial rather than continuous bloomers; and it is necessary, when they are depended on for a season's service in the flower garden, to make two successional plantings in order to secure a prolongation of bloom. Q. U. O.

### ADIANTUM CONCINNUM LATUM.

WE have latterly had some very choice additions to the family of Maiden-hair ferns, thanks to the discoveries of the Messrs. Veitch and Sons' collectors. One of these novelties is closely related to *A. concinnum*, having the pinnules of the same character, both as regards form and position; but the frond is much broader, and hence the variety has been named *A. concinnum latum*. Its points of difference, besides the greater comparative breadth just alluded to, are, the stouter rachides, and stiffer growth of the fronds, peculiarities which are very well shown in the figure which we print on the following page, and which we owe to the courtesy of the Messrs. Veitch. It was introduced from Muna in Peru by the late Mr. Pearce, and requires a cool stove. It is a fine plant both for exhibition and decoration, and has gained, as it deserved, the highest honours at our floral competitive exhibitions. M.





## SEASONABLE HINTS FOR AMATEURS.—MAY.

**T**HE severe weather which prevailed throughout the whole of March gave vegetation a very salutary check; fruit-tree buds were very little more advanced at the end of the month than they were at the beginning, owing to the low temperature and almost total absence of bright sunshine. The season, which at one time promised to be early, will, should the cold weather continue, be a late one: under favourable circumstances, it can hardly be a very forward one. With the exception of Apricots, Peaches, and Nectarines, all other kinds of fruit trees have been from a fortnight to three weeks later in coming into flower, than they were last year.

Most amateurs will be anxious, as soon as the weather is favourable, to get their places planted and decorated. As much of the beauty of a flower garden depends on the arrangement of the plants, this matter must be well considered, and attended to in planting. Those who can winter a quantity of Pelargoniums, can at once make their place gay and beautiful, there are now such a number of kinds adapted for this purpose, some remarkable for the beauty of their foliage, and others for the brilliance of their flowers. For most of the variegated sorts, the soil in the beds should be of a good depth—at least 18 to 20 in.—and it can hardly be made too rich. For the stronger-growing kinds of the plain-leaved and zonals, no manure should be added to the soil, unless it be of a very light, poor nature, when some might be put into it; but it should be dug or trenched to a good depth, so that the roots may be able to strike down to some depth, which will enable the plants to stand dry weather without the constant aid of the watering-can. Calceolarias are very easily wintered, and all amateurs may with very little trouble have a good stock of them for planting. They come early into flower and continue to bloom late in the season, and when planted largely make a place look very gay and lively. All vacant spaces, either in beds or borders, should be filled up with hardy or tender annuals. No garden should be without Sweet Peas—they are so showy and ornamental, and are, moreover, so useful for cutting from; they may be grown in patches in mixed borders, but must be rodded to support them; they also make a good screen to hide unsightly objects when grown in rows. Nasturtiums of all kinds are very showy and ornamental, the creeping varieties being very useful for quickly covering bare places. The present is a good time to cultivate such spring flowers as Aubrietias, Alyssums, Arabises, &c. Russian and Neapolitan Violets should now be taken up and divided, and the runners planted about 10 in. apart every way on a border in which some peat or leaf-soil has been worked in; they do best on borders that only get a few hours' sun in the morning and afternoon, and must be kept well watered until they get well established; during the summer the runners must be kept pinched off, and the soil between the rows must be occasionally stirred with a hoe. Wallflowers for next year should now be sown

in the open ground. When all the planting is finished, the beds and borders should be neatly raked over. Lawns will now require mowing weekly. Walks should be swept frequently when dry, and be well rolled after rains.

As the pits and frames, which have been occupied during the winter with "bedding" plants, will now be empty, they should be turned to good account by growing plants for summer and autumn blooming. Seedling Cinerarias for flowering next winter and spring, should be potted off into small sixty pots; they will do very well in pits or frames if kept a little close until they begin to grow, when air should be admitted to them freely in fine weather. As soon as they begin to fill the pots with roots, they should be shifted into 48-sized pots. They should still be kept in frames, but as the season will now be advanced, the lights may remain off both day and night, except during heavy rains and bad weather, when they should be kept on. Seedlings of *Primula sinensis* will also do well in pots and frames during the summer months, but they require a little warmth when young until they get nice established plants. For the growth of Balsams, Cockscombs, and other tender annuals a slight hotbed should be made. The pots should be kept plunged, and air should be freely admitted in mild favourable weather. Pelargoniums of all kinds for autumn blooming may be grown in pits and frames. Much attention must now be paid to watering. Plants of all kinds in pots will require liberal supplies. Any plant requiring a larger pot should be at once shifted, and young ones should be neatly tied out as they advance in growth. As Azaleas and other plants go out of flower, the seed-vessels should be picked off.

In the Kitchen Garden constant attention must be paid to all advancing crops. The young crops of Carrots, Turnips, Beet, Onions, Parsnips, &c., should be carefully thinned out as soon as they can well be handled, and the ground between the drills should be stirred with a hoe. Sowings for succession should be made of Peas, Broad Beans, French or Dwarf Beans, Turnips, Spinach, Lettuces, and Radishes; a sowing of Walcheren Cauliflower for autumn and winter use should be made about the middle of the month; Celery should be pricked out when fit, and trenches made ready for planting a portion for early use, putting some good manure in the trenches. Cauliflowers and Lettuces for successional crops should be planted. Cucumbers and Melons will now do well without requiring much attention, if there be a nice steady heat in the beds. They should have plenty of air when the weather permits, and water when they require it, and the shoots should be stopped, and thinned out to prevent them becoming crowded. As Potatos appear above ground, a little soil should be drawn up to them to protect them from frost.

Disbudding, stopping, and regulating the shoots of fruit trees must now be attended to, and nothing should be allowed to interfere with its being timely and properly done, as on it depends in no small degree the beauty and health of the trees. When this is properly attended to, there is little need for winter pruning.

The thinning of the fruit should also be timely and well attended to. A person of my acquaintance has a nice young Victoria Plum-tree against his house. In 1867 the fruit set very thickly on it; he was advised to thin it out well, and was told if he neglected it, the tree could not possibly bear any fruit the following year; but he neglected it, and the result was that the fruit was so small it was of little value, and the quantity was so great that it exhausted the tree so much that the following (last) year there was not a single blossom upon it. This neglect of thinning the fruit is the great evil in our orchard management.

Amateurs who grow Vines up the rafters of their greenhouses must now attend to them. The young shoots will require stopping and tying down. The shoots should be stopped one or two joints beyond the fruit, and all laterals sent out afterwards should be stopped beyond the first eye. The thinning of the berries must also be attended to, as soon as they are fairly set. Much of the strength of the Vine is lost when the berries are allowed to get to a large size before they are thinned. It is also much more difficult to thin them properly, when they have become grown so closely together; besides which, the appearance of the berries is the more likely to suffer from handling them at an advanced stage of growth.

*Stourton.*

M. SAUL.

### ON GRAFTING OLD PEAR TREES.

**A**T the commencement of the present century, when the number of good varieties of Pears grown in this country was rather limited, those which were then considered the best were most generally planted in the gardens of the nobility and gentry; and where the soil has been suitable, many of these trees have attained a large size, and on walls have taken up a great amount of space, in many instances to very little purpose, as the bearing shoots are generally at the extremities of the trees, while a large space in the centre is unproductive.

Now, trees of this class are invaluable as stocks for the many improved varieties of the present day; and thus, instead of the choice of fruits being limited to three or four good old sorts, it may be extended to as many sorts as there are side-shoots to graft upon. In this way, it would be easy from one tree against a 12-ft. wall to have from twenty to thirty different sorts. There is no more interesting object for the fruit cultivator to study, than the effect produced by the gradual cutting back of such trees, and engrafting improved varieties upon them. I have followed the practice here suggested for upwards of twenty years, and it has lost none of its interest as I have gained experience. Moreover, by this method, a great saving of time may be effected in the proving of different sorts, as they come into bearing much sooner when thus grafted than on young trees planted out, while if they are found to be in any way unsuitable, they may be cut back and regrafted the next season.

The mode of working is simple enough, and may be so gradually carried

out as to interfere very little with the quantity of fruit annually produced. Thus, one side of a tree may be grafted all up in one season, or each alternate horizontal branch may be cut back and grafted, and the remaining branches may be left to produce fruit until the grafted sorts show signs of bearing. Many of them will come into bud the third year, when the remaining branches may be cut off and grafted. Supposing, then, there were ten or a dozen large old trees to be operated upon, and that it was undesirable to interfere materially with the probable supply of fruit, I should graft one side of two trees every season, so that by the time I had got half through the lot, I should expect the first grafted ones to be in a good bearing state; and thus the whole stock might be changed at a very little sacrifice. I always prefer to graft in the rind where possible, but when the shoots are too small for that method, I adopt shoulder-grafting, or saddle-grafting. The sap should be well up when the operation is performed, and moss should be tied over the grafting clay, to prevent it from drying up too quickly, in case parching weather should follow the operation.

*Relleaf.*

JOHN COX.

### BELLE DE JERSEY PEAR.

**E**VIDENTLY this is the same fruit as the Belle Angevine, Duchesse de Berry, and Royal d'Angleterre of the French horticulturists, and the Uvedale's St. Germain of the English gardens. It is said to have been raised in England, and dedicated to Dr. Uvedale, who resided at Eltham in 1690. It has, therefore, no claim to novelty, although often produced as novel by the itinerant Continental dealers in trees and plants, who occasionally visit English towns for the purpose of turning "John Bull" to account. It is a fruit of remarkable size, and can be made very beautiful in appearance by rubbing the skin over with a sponge dipped in sweet oil during the period of the fruit's development, and exposing the outer side to the sun, which imparts to it a pretty rosy tint. By thinning the fruit, and only allowing those to remain on the trees which are on strong spurs, proceeding from the main branches, they frequently grow to 2 lb. and 3 lb. weight each, and one dozen of these pears exhibited in Covent Garden during the autumn of 1867 weighed upwards of 50 lb. The flavour is not good, and can only be made acceptable to the palate by stewing, and the addition of spice, sugar, and port wine.

The remarkable prices some of these large specimen fruits realize is, no doubt, the inducement to produce them, a result which is easily effected by any practical horticulturist of ordinary intelligence. The itinerant dealers to whom I have alluded apply different names to the fruit, such as "La Merveilleuse," "La Belle Excellente," &c., &c., but they are very careful not to allow the specimens they exhibit to be cut or tasted, their object being to sell the trees, which, in spite of fine names and powerful recommendations, is an imposition upon unsophisticated purchasers. They affect to apologize for the objection by

stating that they are intended as specimens, and are not for sale; whereas the "genuine English" of the matter is, that they dare not allow it, for fear of exposing the imposition they are attempting to practise.

*Jersey.*

C. B. S.

### TRAPPING MICE.

**W**ISH to recommend a very simple and efficient contrivance for destroying Mice, to those persons whose crops suffer from the depredations of these troublesome little animals. The accompanying figures show that there is nothing complicated in my mousetrap, which consists simply of a couple of bricks, and a piece of wire run through a large pea:—

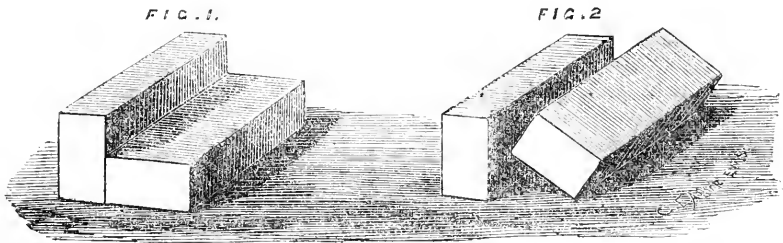
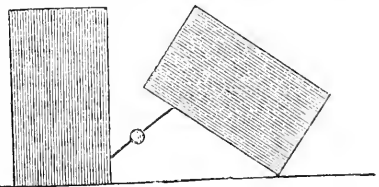


Fig. 1 shows the appearance of the trap when down; fig. 2, its appearance when set up; while the subjoined diagram shows more exactly the pea on the wire, as placed in the setting. The trap should be placed either in the row to be protected, or close to it. In setting, one brick is placed on its narrow side, or edgewise, while the other is laid flat, with its narrow side just touching the broad side of the first, this being done in order to make sure that the flat brick is placed at the right distance, so that when it falls it may leave no space for the mouse to escape. The wire and the pea being then in readiness, the flat brick is raised so that it may rest on its lower edge, as in fig. 2. The wire, which is to keep it in this position, should be about one-eighth of an inch thick, and about two inches long, and not pointed; it should be placed in a slanting direction, with the pea near the lower end, which end should be placed within half an inch of the bottom of the brick on edge, while the other end is not more than one inch from the upper edge of the brick that is to fall. The pea end of the wire is that which must give way, and if it be placed in a more horizontal position than that I have described, it will not do so with the slight touch of a mouse or a sparrow. This, therefore, is one reason for having the pea near to the lower end, while another is that of bringing the pea as near as possible to the running level of the mouse, so as



to be the more enticing. Thus fixed, the slightest touch will cause the wire to give way, and the brick will fall instantly, and crush whatever is beneath it.

I have tried all other known means for destroying these little ravagers with but partial success, but with this trap I have caught no less than forty-two mice within the last fortnight upon two rows of peas. This, however, is not the only use to which the trap may be put, for if that artful and mischievous bird, the sparrow, dares to meddle with the pea, his career may, by its means, be as suddenly cut short as that of the mouse; eleven of these troublesome birds have fallen victims to their boldness since the peas have appeared above ground. My traps are, indeed, just now catching many more sparrows than mice, which may be accounted for by the sparrow being fonder than the mouse of the young shoots of the pea.

This trap is not a new invention, for I believe it has been used for some years in this neighbourhood. However, it is not so well known as it deserves to be. I have introduced it into all my sheds, mushroom-houses, &c., as well as into the shrubberies, with surprising success. I claim for it the merits of simplicity, cheapness, and efficiency. Half-a-dozen such traps can be set up in five minutes; they cost next to nothing; and they are certain in their action.

*Lillesden, Hawkhurst.*

THOMAS RECORD.

## THOUGHTS ON CROSS-BREEDING PLANTS.

VERY few of us, I fear, appreciate the value of cross-breeding, or hybridizing, as it is commonly called, or give to it that time and attention that it really deserves. The improvements which have already been effected by this agency, in the case of both plants and animals, by the few who have devoted themselves to it with more or less success, are astounding, but I fear the principles upon which action should be based, are far from being properly understood amongst gardeners. Generally when this interesting and rather excitable hobby is set upon by the novice, quantity is made the main object, but this is, undoubtedly, a great mistake. For example, when visiting the garden of Mr. Banks, the eminent Fuchsia-raiser, who has for some years been realizing a considerable sum annually by breeding Fuchsias, I was surprised to find, considering the success to which he has attained, how very few seedlings he raises each year. Again, when I had the pleasure of inspecting the exceedingly interesting garden of Mr. Morris, of Deptford, who is well known as one of the most successful raisers of Zonal Pelargoniums, I learned that this gentleman also raised but very few seedlings. On inquiring how it was that within such a limited range he was successful in obtaining so many distinct varieties, Mr. Morris told me, that having first fixed his mind on two varieties that were perfectly opposite, or possessed decidedly distinct features, plants of these were carefully prepared and brought forward for impregnation, every possible pains and all past experience being brought to bear on this preparation for impregnation. In the

hands of such experienced men as those I have named, a cross is almost certain as to its results, and success seems surely to follow. Mr. Morris is very sanguine that in the *Pelargonium* called *reticulatum*, which is so curiously marked in the leaves, like the Japanese honeysuckle, he will be able to replace the yellow with scarlet. When this is accomplished, it will give us a decidedly new race, which may possibly prove to be equally valuable with that of which the renowned Mrs. Pollock is the type.

If these gentlemen could be induced to give the floral world some account of their experience and success in the art of cross-breeding, they would certainly confer a great boon on those cultivators who are anxious to keep this little island far ahead of the rest of the world, in regard to the production of objects for beautifying the earth's surface. I, for one, should hail such information with joy; and I am sure many others would do likewise.

*Woolwich.*

H. CANNELL.

### NEW FLORISTS' FLOWERS.

SOME of the old florists, who have ardently longed for the return of that time when their favourite flowers shall be once more in the ascendant, may take heart from the fact that *Cinerarias* are again winning honours, and so suggesting that named varieties are being again sought after. At the meeting of the Floral Committee, on the 6th of April, a First-Class Certificate was awarded to *Cineraria Orb of Day*, exhibited by Messrs. F. and A. Smith, Dulwich; it is a very fine variety, with the florets unusually stout and smooth, of a rich, bright rosy-crimson, white at the base, forming a narrow circle round the pale disc, and with a thin line of bright deep rose separating the white from the crimson; the colouring of this flower is superb, but it has a tendency to reflex. Messrs. Dobson and Sons, Isleworth, had another variety, called *Princess Teck*; white, with a dark disc, but inclined to coarseness. Other new varieties were shown, but not in a condition to call for special notice. In the way of new *Azaleas*, Messrs. F. and A. Smith had *Advancer*, a taking flower of a clear rosy-pink hue, but said by competent judges to resemble too closely Frost's *Perfection*, sent out a few years ago. Messrs. Veitch and Sons, Chelsea, exhibited a group of plants of *Azalea James Veitch*, a variety that was thought very highly of at the International Horticultural Exhibition at Ghent last year; the flowers are of a remarkably bright deep rose hue, but they were shown small and rough, as if they had been pushed on too rapidly into bloom. *Primula sinensis fimbriata alba magnifica*, a fine white form of the single Chinese Primrose, the flowers produced on red stalks, was shown by Mr. B. S. Williams, Holloway; this was not so pure or distinct in character as one exhibited by Mr. W. Paul a few weeks since. The type of flower shown by Mr. Williams has this season been observed on several occasions, and is not so novel as he would seem to suppose. There is also a tendency on the part of all white *Primulas* with red stalks to come striped, or flaked.

A novel and handsome form of *Primula cortusoides amœna*, named *lilacina*, from Messrs. Veitch and Sons, received a First-Class Certificate from the Floral Committee on the 20th ult. The flowers are pale lilac, and expand much more fully than those of the paler varieties already introduced. Some plants of *P. amœna* itself, from the gardens of the Royal Horticultural Society at Chiswick, were much admired. They were grown in 5-in. pots, and were loaded with masses of deep rose-coloured flowers, affording another illustration of the advantage of a little "wholesome neglect," for the plants, which bloomed so remarkably well, had been allowed to remain in the pots without a shift, and had become pot-bound. *H.P. Rose, Prince Leopold*, a dark purple-crimson sort, was exhibited by Mr. W. Paul as a climbing variety; some doubt was expressed as to whether it could be considered to have a truly climbing habit, but, at any rate, it will form a valuable addition to pillar roses. A delicate pale flesh-pink *H.P. Rose*, named *Thyra Hammerich*, which is said to be one of the best of the new ones of last year, and which, though not in good condition, was full of promise, together with a beautifully cupped and globular pale pink unnamed seedling Rose, were also brought by Mr. W. Paul. Mr. Butcher, of Cambridge, showed a fine grey-edged, maroon-ground *Auricula*, named *Mrs. Butcher*, which was awarded a Second-Class Certificate; this will probably develop into a first-class flower. Mr. Turner had a fine lot of new *Alpine Auriculas*, especially flowers having maroon-crimson and plum-coloured grounds; the most striking were named *Marvel, Charley, Arthur, Stella*, and *Godfrey*, but some account of these will be given hereafter. A *Fancy Pansy, Princess of Wales*, from Mr. H. Hooper, of Bath, is a bold showy flower, with an almost white ground, and large regular dark blotches. *Azalea Thackeray*, from Mr. Z. Stevens, Trentham, a cross between *Etoile de Gand* and *Imperialis*, is a deep orange-red flower, having many good properties, but with the edges too much crumpled to give it the desired even outline; being free-blooming, of good habit, and of a showy hue of colour, it promises to make an effective exhibition variety, notwithstanding the want of perfect smoothness in the flowers. A very fine group of Seedling *Amaryllis* was shown by Mr. Baxter, gardener to C. Keiser, Esq., Broxbourne. Three fine varieties of the pale-coloured or vittata series, named *Mdlle. Titjens, Olga*, and *Alexandra*, received each a First-Class Certificate. They are all bold, finely-shaped flowers, with white bar or margin, and light rosy or carmine-red tints on the segments. One, called *Duke of Edinburgh*, a rich, deep crimson, but rather narrower in the segments, was awarded a Second-Class Certificate. R. D.

### DRACOPHYLLUM GRACILE.

THIS is a pretty decorative plant, and also very useful for furnishing cut flowers, its delicate white, conical-shaped flower-trusses being well adapted for bouquets. It also continues a long time in perfection. To cultivate it successfully, it is necessary to have some good fibrous peat broken up



(not sifted), and to this must be added sufficient silver sand to allow water to pass freely through the mass; also to provide ample drainage, and place some rough peat on the top of it, to keep it in good working order, as the delicate hair-like roots are soon destroyed if they become water-logged. A young plant in good health will require two shifts in a season, as it is better to give two moderate shifts than to overpot. Attend well to watering, so that the plant does not suffer for want of this important element, which would prove as injurious as the other extreme. After flowering is over, cut off the stems just above where the young growth is seen pushing. The plants will at this stage be benefited by being slightly bedewed in the afternoons of bright days, at the time when syringing is usually performed. As they advance in growth, a few neat stakes will be necessary to regulate and support the stems; but as few stakes as possible should be used, so that the plant may assume a natural appearance, as far as is consistent with artificial cultivation. Admit air freely, and never subject the plant to a high artificial temperature. At the end of July place the plant in the open air, merely protecting it from heavy rains; and about the middle of September replace it in an airy situation in the greenhouse. It should be again shifted in the following spring, and treated in all respects as above directed.

*Somerley Gardens.*

HENRY CHILMAN.

## MONTHLY CHRONICLE.

**G**ARDENERS have already a sufficiently extensive acquaintance with the destructive powers of the common Cockroach. It is therefore no good news to them to learn that another very destructive species has been recently imported from India, amongst orchids. The new pest is named, on the authority of Professor Westwood, *Blatta melanocephala*, and is said to be most prolific, most destructive, and most difficult of extirpation. All cockroaches, it would seem, become accustomed to any particular kind of trap, or poisoned food, and learn to avoid it. It was stated by Mr. G. F. Wilson, at the meeting of the Royal Horticultural Society's Scientific Committee, at which the specimens of this insect were exhibited, that if a bowl of water is wrapped round with a wet cloth, the cockroaches will ascend by the cloth, and thus get into the bowl, from which they cannot escape.

— **F**IRES originating from Railway Locomotives were very numerous along the lines of the several railways last summer, and sometimes they were also very serious, extending over large areas. One case of damage, in which the Midland Railway Company was concerned, was tried at the last Spring Assizes at Nottingham, with the result of fixing the liability of the railway companies. The fire in this case destroyed four acres of grass keep, several hundred trees and shrubs of 8 or 10 years' growth, and some established quickset fences, the property of Mr. Harris, at Kegworth. By suggestion of the learned judge, Baron Cleasby, the question of damages was referred, and a sum of £144 was awarded as compensation.

— **S**PECIAL Manures are just now engaging the attention of cultivators. Mr. Meredith, of Garston, announces a Vine Manure, to the use of which he attributes much of his own success in grape-growing and grape-showing; this compound is said to secure in the crop not only fine bunches, but good flavour and high finish. Mr. Wimsett, of Chelsea, has provided a "restorer" for Balcony Plants, and perhaps a good excuse for using a concentrated manure for these latter, may be found, in the disadvantageous circumstances under which such plants are compelled to grow.

— **T**HE method of extracting the seeds from Cedar cones by splitting, is tedious, and often injurious to the seeds. M. Delépine, of Angers, states that the plan he adopts is much simpler, and better. About February the cones are buried at a depth of two feet underground, in sand; they remain thus for a month or two, after which the cones scale easily without force, and the seeds are then picked out and sown immediately, and being swelled, they germinate at once.

— **D**DOUBLE German Wallflowers are highly recommended at this season for their beauty and fragrance. Their culture is simple—merely to sow the seed in April in a light warm soil, or a gentle hot-bed in the open air, to transplant them to rich soil early in June, and in October to pot, three in a pot, into 10-in. or 11-in. pots, and place them in an orchard-house. In March they put forth their glorious spikes of flowers, often from 2 ft. to 3 ft. in length. These fine flowers have been obtained by the German florists; and the variation in colour is very remarkable, some being dark brown, others blue, others grey, and others shades of yellow, from straw to gold.

— **T**O have a constant supply of Broccoli, Mr. McIndoe recommends, for autumn and early winter use, the Bishophorpe strain of the true Walcheren, a sort rarely seen now. This is sown in the first and last weeks of June, is planted after early Potatos, and is in use from October till Christmas. After this none equals Backhouse's Winter White Protecting, which is in use from November till February, and is succeeded by Frogmore Protecting, and Melville's Hardy Scotch, a grand Broccoli; these being again succeeded by Cattell's Eclipse, which generally lasts till the beginning of June. The great difficulty is to get the sorts true to name.

— **N**EW varieties of Potatos seem to be causing some excitement in America. The Early Rose, a sort which is highly spoken of, has stimulated a host of competitors. Among these, the Early Prince, a seedling of the Early York, is much commended. It is white inside and out, rather longer than broad, slightly flattened, with the ends nearly equal; it grows large in a good soil. Grown side by side with Early Rose, it proved five days earlier in ripening, and was much larger. It is said to be edible as soon as large enough to use, to have a fine flavour, and to cook dry. The originator, Mr. Harrington, Geneva, New York, claims for it that it supersedes the Early Rose. Another novelty is Climax, a seedling of the Early Goodrich. The tubers of this sort are quite smooth, shaped like a cylinder swelled out at the centre, occasionally slightly flattened, and terminating rather abruptly; the eyes shallow, the skin netted, the flesh white and solid, and boiling dry and floury. It is said to be of superior table quality, nearly as early as Early Rose, fully equal in productiveness, and keeping as well as the Peachblow.

— **T**HE Tulips in Hyde Park have been remarkably effective this season, and have shown how valuable these gay flowers are, when properly used, for Spring Decoration in town gardens, as well as in those which rejoice in purer air. The most effective sorts were—*Doubles*: Rex Rubrorum, Tournesol, New Yellow Tournesol, Rosine, Titian, La Candeur, and Roosenkroon. *Singles*: Vermillion Brilliant, and Yellow Prince.

— **O**NE of the most beautiful plants we have seen for the purpose of Table Decoration is a hybrid *Sonchus*, raised between *Sonchus laciniatus* and *S. gummaifer*, in the garden of W. Wilson Saunders, Esq. These *Sonchuses*, grown to a single stem, and furnished down to the pot with their elegantly cut drooping leaves, which are almost transparent under artificial light, form admirable objects for the purpose above-mentioned.

— **U**NDER the name of Japonicas, the fruits of the Japan Medlar (*Eriobotrya japonica*) have been recently sold in the London markets, and also in the streets by the hawkers. The fruit would form a handsome addition to the dessert table, and has an agreeable sub-acid flavour. Some few years since, fruits of the Chinese Jujube (*Zizyphus sinensis*) were sold in a similar way, under the same name.





## GLADIOLUS CRUENTUS.

WITH AN ILLUSTRATION.

ON the subject of the accompanying plate we have a very beautiful and entirely novel species of the popular genus *Gladiolus*. It was received from Natal by Mr. Bull, of Chelsea, with whom it flowered during the past summer, when our figure was taken. As will be seen from Mr. Fitch's excellent representation, it is not only a very showy plant, but also one of a very distinct character, and we believe it will be welcomed as a grand acquisition for the flower-garden, on account of its vigorous habit of growth, and its large brilliantly-coloured flowers. It will probably be also of great value to the hybridizer, and may be expected to impart some novelty of feature to the popular varieties of this favourite flower. As a species it is remarkable for its almost regular perianth, with blunt emarginate segments, but it has entirely the habit and aspect of the ordinary garden varieties of *Gladiolus*.

The plant produces a tall scape, 2 ft. high or upwards, furnished with long flag-like glaucous leaves, nearly an inch wide, the scape terminating in a distichous spike of about a dozen large broadly-campanulate subringent flowers of a bright blood-red colour, the segments of which are obovate or oblong-spathulate, and emarginate, the upper ones being more prominent, somewhat larger than the lower, and uniformly coloured, while the lower smaller ones are somewhat recurved, crimson at the base, and scarlet at the apex. The two lateral ones of the lower lip are marked about half-way down with a white zone dotted with crimson, which on the exterior edge runs out into a long point, like the flame of the florists' tulip. The base of the segments, where they pass into the slender tube, is marbled with yellowish green. The stamens have red filaments, supporting linear purple anthers.

M.

## NOTES ON NOVELTIES.

THE Floral Meetings of the past month or two have yielded fewer novelties than usual, amongst the subjects classed as New Plants. During April, Mr. Bull brought forward a *Ficus eburnea*, a stove shrub introduced from India, having bold ovate, smooth, shining green leaves, marked with white ribs. The pretty Indian *Cecylogne Goweri* came from Mr. Williams: it is white, the lip marked with a bold yellow blotch, the edge of which is traced out by a red line. The curious and distinct-looking Indian *Lilium Thomsonianum* was shown in a tolerably well-grown condition by Mr. G. F. Wilson, from a bulb communicated by M. Leichtlin; this remarkable plant, with its narrow-petaled pink flowers, has been referred to *Fritillaria*, and has much the aspect of an *Anthericum*, but the authorities decide that it is a true Lily. An *Agave De Smetiana* came from the garden of W. W. Saunders, Esq.; this is one of the dwarf tufted-growing sorts in the way of *A. Verschaffeltii*, but the leaves have a

whity-brown margin, and bear coarse irregular reversed marginal spines. The pretty little *Cymbidium tigrinum* came from Messrs. Veitch and Sons' collection; it has long olive-coloured sepals and petals, and a white lip, transversely barred with purple. A beautiful variety of *Odontoglossum Alexandre*, called *Warneri*, obtained a first-class certificate, as did most of the preceding; it has the sepals tinted with rose, and bearing a few large bronzy spots, the petals pure white, and the lip yellow at the base and white at the tip, having a great central blotch of bronzy brown. A beautiful little stove basket Fern, *Davallia hemiptera*, from Borneo, which has a creeping rhizome, linear fronds, and dimidiate lobate pinnæ, came from Messrs. Veitch, who had received for it a first-class award on a previous occasion.

At the meeting held in the early part of May, Messrs. Standish and Co. had a fine distinct new half-hardy Fern, *Struthiopteris orientalis*, a species which has been found on the mountains of India, but in this case was imported from Japan; it has spreading ovate pinnato-pinnatifid sterile fronds of a pale-green colour, and the erect fertile fronds have leathery pinnæ, which bear dark brown sori, covered with entire or lobed involucres. The very distinct *Vanda Denissoniana*, a new species, from Mouhmein, with acutely and unequally bilobed leaves, and waxy flowers, of which the sepals and petals are obovate, whitish with a creamy tinge at the tips, and the lip is dilated and two-lobed at the apex, with a stain of yellow and a few red lines near the orifice of the spur, came from Messrs. Veitch; who also had *Brassia Lawrenceana longissima*, a Costa Rica plant, with the lateral sepals six inches long, yellowish-green, with dark blotches near the base, and a greenish-yellow cordiform lip dotted with brown. The Society's Chiswick collection furnished *Dieffenbachia nebulosa*, a hybrid between *D. Weirii* and *D. maculata*, remarkable for its stocky habit and spreading leaves, which are coloured in a clouded manner with yellowish-green in the centre, darker green at the edges, and spotted here and there with white dots. Mr. Bull, of Chelsea, produced *Geonoma camorensis*, a good looking Palm, with a few pairs of broad pinnæ and a bilobed apex; also *Podocarpus Maki variegata*, a Japanese shrub, with linear leaves edged with white. *Dendrobium xanthophlebium*, an Indian species with slender stems, oblong acute leaves, and moderate-sized whitish flowers in pairs, having the three-lobed lip covered over with bright orange reticulations, came from Mr. Bateman's garden. These all obtained first-class certificates. *Croton Wrigleyanum*, a sport from *variegatum*, with large central blotches of yellow, instead of the usual yellow venation, was sent by Mr. Shaw, of Manchester. *Acer rufinerve variegatum*, a fine Japanese Maple, which had been provisionally named *Acer japonicum argenteum*, and which came from Messrs. Standish and Co., had large palmatifid leaves, variously edged or mottled with white, and promises to be a very ornamental tree. The Peruvian *Epidendrum syringothyrsum*, from Messrs. Veitch and Sons, will probably develop into a very handsome species. In its imported state it has tall reedy stems, clothed with

ligulate leaves, and terminating in a broad spike of bright rosy-purple flowers, which are set out on the long slender purple ovaries, and consist of stiff narrow sepals and petals, and a protruding fleshy lip, which is three-parted, and white towards the base. *Peperomia heterostachya*, from the same source as the last named, is a neat dwarf stove herb, with dark bottle-green elliptic leaves, marked by five or seven pale ribs, and of remarkably free blooming habit. *Iresine acuminata*, from Mr. Bull, is a plant coloured exactly like *I. Herbstii*, of which it appears to be a sport, but having flat ovate acuminate, instead of bilobed puckered leaves, as in the form commonly grown; the same plant came from Messrs. Veitch, as *Achyranthes acuminata*. T. Cooper, Esq., of Reigate, sent *Toxicophlœa spectabilis*, an interesting evergreen shrub from Natal, remarkable for its close resemblance in general features to an *Ixora*, though belonging to a totally different family—the Apocynaceæ; it has elliptic dull green leaves, reddish on the under surface, and the white star-shaped flowers form close heads. *Coleus Beauty of Wildmore*, is a sport from *Lamontii*, showing silvery variegation. The margins of the leaves are creamy-white, and the blotch chocolate-brown, passing to rosy-pink, the colours being analogous to those which appear in the Silver variegated Zonal Pelargoniums. M.

#### THE FAILURE OF THE APRICOT CROP IN 1869.

IN this locality, the Apricot crop, where not protected well, is this year quite a failure; even where the trees were covered with glass lights, the crop is very thinly set. On a long range of wall in the gardens here, the trees have always been covered with glass lights in the spring, and during the last seven years have never until this year failed to produce a full crop. All the trees of the Kaisha variety, and a few of the Breda and Musch-Musch, have set their fruit well; but the Moorpark, St. Ambrose, Royal Apricot, and Shipley, show only a scanty crop. There is no doubt but that the protracted cold and dull weather in March, was the cause of the Apricots setting so badly under glass, this spring. On examining the flowers, there seemed to be less pollen than usual, and during the whole time they were expanded, there was very little sun-heat or drying winds to disperse it. Peaches and Nectarines on a heated glass-covered wall have set plenty of fruit, but on the open walls they have set a very thin crop. Pears, Plums, and Cherries, not having flowered till the fine weather in April set in, show plenty of fruit set, and the finest Pears on pyramids and walls will have to be thinned to secure fine specimens. Although, in general, Apples when a good crop one year, do not bear so well the year after, yet this year they are loaded with blossoms, and promise again a great crop. The single and double-cordon apples on the French paradise stock are a complete mass of blossom, and the protection of them from spring frosts is so easy, that I predict those who have planted them will always secure a crop. Last year, although the cordons here were only planted in the beginning of March, I left a few fruit on each of the

strongest to prove the sorts ; but this year they promise to be wreathed with fruit so as to resemble "ropes of onions."

*Welbeck.*

WILLIAM TILLERY.

### THE BELGIAN PANSY.

HERE is a flower for everybody who has a garden, and one worthy of a place in every garden ; nay, more, the garden that is without this beautiful flower is very deficient indeed in its spring decoration, and lacks one of the most useful as well as the most decorative of the plants available for that purpose. In this matter of spring decoration we have been too apt to assume that none are useful but such as are self-coloured, and, consequently, are adapted for masses, in this respect following too closely our stereotyped notions derived from summer bedding, by which we are disposed to value flowers only in proportion as they are adapted to produce striking masses of colour. Thus many really beautiful plants are set aside or neglected, simply because they will not produce that uniformity of effect so much desired.

But variety as well as uniformity has its charms, and in no spring flower can this great desideratum be so easily obtained as in the Belgian Pansy, which, if raised from seed even by thousands, will afford just as many varieties or shades of colour as there are plants. Of course, to perpetuate choice kinds, propagation by cuttings is essential, but to those who prefer the easiest mode of obtaining them, and are desirous of producing new and fresh faces, the raising of them from seed will prove the most suitable, as it will be also the most pleasing.

Perhaps some will ask why the Belgian Pansy should be thus lauded. Is not the English strain as useful for the purpose ? Possibly so, to those that like them best ; but from prejudice, or some other cause, I immensely prefer the foreign strain. I believe they possess a hardier constitution, and are more capable of resisting the heats of summer ; they seed more freely, cover more ground, and from their greater diversity afford more variety. I must confess that in looking over a collection of English named varieties, however rich in colouring or perfect in outline they may have been, I have always felt a kind of satiety, as though there was too much of one thing ; the yellow selfs were so much like each other, and the white and dark selfs also, and then the big staring belted kinds reminded me so much of men having broad clean-shaven faces, with a dark border of close-cropped whisker, and differing from each other only in a minute degree, that I have turned away from them to a bed of Belgians as if for relief, and have there found it. It may be that in these days of the rugged facial outline and picturesque beard of the human form divine, we have brought our ideas into closer union with the diversity of faces that is to be found among the Belgian Pansies ; certain it is, that those lovers of beautiful flowers whose floricultural tastes have not been too closely moulded in the school of the old



florists will greatly prefer the latter strain, and having little regard for straight-laced rules or defined laws of judging, will honour them as among the choicest pets of their garden.

In embarking in the cultivation of the Belgian Pansy, let no one be induced to purchase any of the cheap rubbish of seed sold under that name, because seed of a good strain cannot be sold cheap fairly. When, however, you have got your seed, sow it about the end of July, or the beginning of August, in pans or boxes, keeping them moist and slightly shaded from the sun. When the seedlings are large enough to handle, let them be pricked off into other boxes or into a frame, where they may be kept still shaded for a few days until they have become well-rooted. During the autumn, as beds or borders become vacant, they may be carefully transplanted to their permanent situations, and will form during the winter strong robust plants, that will bloom early, and continue to do so with very little care and attention for many months. Soil, doubtless, enters materially into the question of their successful cultivation, but, without doubt, they will succeed well on any moderately good loam. They will pay to have a soil made purposely for them, where there is either a stiff clay or much gravel. I find they do admirably on a soil of yellow loam, moderately enriched with rotten dung, and under such conditions they produce flowers of the richest hue; however, for all ordinary purposes, they will do well in any common garden soil. It is usual to recommend pegging the side shoots of the Pansy to secure them from the effects of the wind, and in the case of some of these Belgians that may be disposed to be leggy it is still desirable; but as a rule I have found the practice of top-dressing them with sifted soil, either that of old pot-earth or else the trimmings from the roadside, to be the most effectual preventive of damage from that cause, as the side shoots root freely into the top-dressing, and thus the plants acquire additional hold. This should be done, where possible, two or three times during the summer, especially just after a fall of rain, when the dressing helps to retain moisture in the ground, to the manifest benefit of the plants. It would, indeed, be a difficult matter to describe the extraordinary variety of colours to be found in a good strain of Belgian Pansies, varying from the purest white to nearly black, with a thousand intermediate combinations of shades; and it is in this feature they are so especially to be prized, as nothing contributes so much to create pleasure and interest in the flower-garden as continuous variety.

As subjects for exhibition at spring shows, Pansies should at all times hold a foremost place. Their cultivation in pots is not difficult, but for this purpose young, well-rooted cuttings of the best kinds obtainable should be used. These should be potted up in large 60s in the autumn, and kept growing on in cold frames, being shifted as necessity requires, until they are got into 24s or 16s, as the size of the plant may demand. By the end of April or the beginning of May, they will, with ordinary care, be found to be very beautiful and creditable subjects for exhibition. For general purposes, as decorative agents for the

garden, it is best to raise a batch from seed every year, as these generally prove to be the strongest and most robust plants, although cuttings might be taken from some of the best kinds in order to perpetuate them. Seed, however, saved from good flowers, will invariably produce many others equally as good, and some among them of even better quality.

*Old Shirley.*

ALEXANDER DEAN.

### SUMMER PRUNING FRUIT TREES IN HOT SEASONS.

**O**BSERVING some remarks on the effect of drought on Fruit Trees, &c., by my friend Mr. Wighton, I beg to state that I have found many of his statements (p. 52), applicable to our fruit trees here at Dalmeny Park, with these exceptions, that our peach and apricot trees had a very indifferent show of blossom on them in the spring of 1868, which I attribute to the unfavourable weather of the autumn of 1867. This year it is quite the reverse, as our peaches and apricots look splendid, and so do the apple and plum trees, which is no doubt owing to the fine summer and autumn having thoroughly matured and ripened the wood—a condition of the first consequence as regards enabling the blossom buds to withstand vicissitudes of weather. I may add that last season our pears were very much larger than I ever previously saw them. The Winter Nelis, on the walls, was quite double the size it attains in ordinary seasons; but as regards its flavour and melting properties, it was much inferior to what it generally is, some of the fruits being even gritty. This, I fancy, may be attributed to two causes: first, lack of moisture, and secondly, premature ripening. The fruit, moreover, did not keep so well as usual.

I quite agree with Mr. Wighton's remarks relative to non-summer pruning, in so dry a season as the past. In corroboration thereof, I may mention that we have here eight Morello cherry trees on a wall with a north aspect. When I came here twenty-five years ago, there were sixteen trees; but I cut away each alternate tree, and the eight now completely cover the entire space. Out of curiosity, I lately measured one of them, and found it to cover 750 superficial feet. Most persons who have seen these Morello cherry trees say that they have never seen finer. Now, I have never summer-dressed these trees. The dressing was not omitted out of carelessness in reference to nailing them, as some might judge, for when denuded of their foliage in winter they will bear the inspection of any one. My reason for leaving the breast-wood on was, first, that it might get the influence of the sun to ripen it; and secondly, that this breast-wood might keep the nets away from the branches, so as to allow a free circulation of air. These conditions were realized apparently without detriment to the trees in respect to their extension and fruitfulness, for I rarely miss having a good crop; and though the trees are now old, I have on many occasions, with fruit gathered from them, taken the first prize for the finest Morello cherries at our exhibitions. Having so large an extent of Morello wall, I thin out the young

wood well at pruning time, my object being to get fruit of good quality in preference to a quantity of an inferior character.

*Dalmeny Park.*

WM. MELVILLE.

### THE ORNAMENTAL SIDE OF FRUIT-GROWING.

IT is somewhat singular that such a sharp line should have been drawn between objects of utility and things of beauty. But so it is, or rather has been, for I think we are improving in this respect. Still, there seems a singular, I had almost said a perverse, tendency in many minds to limit their pleasures by making their plants serve only the one primary purpose for which they are grown. In this respect we are not straitened in nor by nature, but we are straitened in ourselves, and cut down by about one-half the rich revenues of gladness that nature, in her goodness, sheds down at our feet.

It seems full time that the distinctions that have been so sharply drawn in Horticulture between objects of utility and ornament should be utterly and finally abolished. For in truth, there is no such distinction. No one thing that we grow is destitute of lines or form of beauty, and the mere fact that it is also useful ought not to hide these from our eyes, but rather render them more apparent. In this sense, beauty clothed with utility is adorned the most. For beauty and grace are never so irresistibly charming as when discharging duty, or engaged in useful service. Thus ought our estimate to be formed when judging of plants that add to their beauty the higher adornment—if I may so express it—of utility, the capacity of service, the ability to add to our enjoyments and nurture our lives.

The general recognition of this higher law would prove a clear gain to the pleasures of gardening. It would tend to break down that sharp barrier that has been interposed, without reason to sanction it, between the ornamental and utilitarian departments. It is necessary, however, to be clearly understood upon this point. I do not advocate any uniting of the two departments, so as to make them both alike, no invasion of the kitchen into the flower garden, nor any great inroads of the flower garden into the kitchen department. A few lines of floral beauty may be run along the main walks, but this is all that ought to be admitted; and even this is not needful to render a kitchen garden both interesting and beautiful. On the other hand, fruit trees might approach within sight of the flower garden with positive advantage, and their presence might be welcomed in pleasure-grounds and ornamental woods as being amongst the most beautiful objects for such positions.

The kitchen garden may, however, be made highly ornamental without a flower, specially so called, at all. Order, cleanliness, and health can be had in every garden, and these are most important elements of beauty. In fact, a well-ordered garden opens up endless sources of delight. A place for every crop, and every crop in its place; bushes and trees arranged for effect in rows, and support-

ing the walks in stately lines of regular forms, originate that peculiar satisfaction which the consciousness of order and design never fails to impart. Of the charm of perfect cleanliness and complete health it is needless to write ; but this I will say, that there is more real pleasure in looking at a cabbage brake in health, cleanliness, and order, than upon a bed of flowers distinguished by the absence of such qualities.

These may be said to be the commonest elements of beauty, everywhere present, and accessible to all ; but much higher ground than this may be taken in approaching fruit trees on their ornamental side. It may be boldly affirmed that looked at simply as ornaments they have no rivals, and few equals. During the flowering period our kitchen garden walks lined with conical apple and pear trees were preferred by visitors to houses full of Azaleas or tropical plants, or to spring borders alive with beauty, and robed with fresh life. The only spots that competed with the trees in attractiveness were banks clothed with masses of forget-me-nots, rivalling the blue sky itself in their long sheet of colouring, set off with counter masses of *Arabis*, *Primulas*, *Aubrietias*, violets, &c. Pear trees are in some respects more striking than Apples for this purpose, inasmuch as the different varieties flower more together, and their blossoms are all white. Cherries or Plums are indescribably effective, and Peaches and Apricots are almost as much worth growing for their blossom alone, as Almonds. In the South and West of England many Peaches or Apricots might ripen fruit as standards or conicals.

Though the Apple does not produce such a dazzling effect all at once, it has more variety of colouring, and continues longer in blossom than almost any other fruit tree. In colour it reaches over the entire distance, through an endless series of the most exquisite pinks, from scarlet to the most spotless white ; and in form, substance, and colour it has no rival in beauty among fruit trees, nor scarcely among flowers. I am told that a large Devonshire orchard in blossom is a sight never to be forgotten, and I can readily believe it. But while comparatively few can enjoy such a sight, we can all have the satisfaction of beholding much beauty at home, if our eyes are only opened to see it, and our taste educated to dispose of the material at our command to the best advantage.

Nor does the ornamental character of these trees end with their blossom. Most of them may be classed among fine-foliage plants. It is most absurd to limit this term to plants distinguished either for the magnitude or gay colouring of their leaves. All leaves are beautiful, though not all alike so. And then are not fruits likewise ornamental ? We grow useless Solanums, and Tomatos and Capsicums of but little value, solely for ornamental purposes, and fail to appreciate the higher claims of Apples, Pears, Cherries, Peaches, Apricots, Plums, aye, even Gooseberries, Currants, Raspberries, and Strawberries, to admiration for their exquisite beauty of form and colour. Yet what pen or pencil has ever done full justice to the intrinsic grandeur, delicacy, or

grace that characterize such fruits, as they nestle together in rich masses upon cushioning beds of rocking or resting leaves? And then how rich and glowing are the autumnal tints of many of the leaves of fruit trees and bushes, revealing all the rich orange of the maple and chestnut, and the glowing scarlet of the rarer liquidambar! As I have already adverted to this branch of the subject in the *Gardeners' Chronicle*, where I recommended that the Grape Vine should be grown as an ornamental plant, I will not further pursue it here. In fact, this paper is simply fragmentary, not exhaustive,—a mere indication of the mine where inexhaustible treasures lie hid, and not an attempt to exhibit the treasures themselves in either their magnitude, number, or glory.

I will therefore turn from noting our ornamental wealth, which is too often literally hidden beneath the gross veil of a grovelling utility, which gives up the kitchen garden to the cook and the stomach, and banishes order, cleanliness, and taste as entirely from it as if the recognition of the claims of the one were antagonistic to the rights of the other—which they are not, and advert to the more extended use of fruit trees, specially for ornament, within what is called, by way of pre-eminence, the domain of the beautiful itself. Is there any good reason why an almond, a thorn, a chestnut, a beech, or an oak should be admitted within the domain of floral art, and the peach, cherry, apple, medlar, quince, plum, or the pear be shut out? All the former are fruit-bearing trees as well as the latter; they differ chiefly in the fruit of the one class being comparatively worthless and useless, while that of the latter is valuable and grateful to man. Is the idea of utility, then, so incongruous with the enjoyment of landscape art that the beauty of things must sink in proportion as their usefulness increases? This can hardly be accepted as the reason for shutting out our beautiful fruit trees from pleasure-grounds. Else the oak tree would lose dignity, and be robbed of its grandeur, when its acorns were given to the pigs, or husbanded as winter food for pheasants. Possibly some reader may smile at this, and perhaps Loudon or Price may have given better reasons for the exclusion of fruit trees from the ornamental grounds. I have no time to look up authorities; if I had, I would rather use it to recommend a liberal and fearless introduction of our highly ornamental fruit trees, intermixed among other flowering plants in our pleasure-grounds, than in citing the highest authorities against the practice. Many of these are equal to our best flowering shrubs as ornamental objects, and nearly all of them would add a new and much needed charm of grace and variety to our shrubberies.

In plantations, too, such trees would prove invaluable, lighting up the gloom of broad masses of sombre foliage with a spray of brightness wholly their own, as do the magnificent Wild Cherries in the hill-side woods at Belvoir, and in many other places; while the autumnal fruits impart the idea of a prodigality of riches, or have the merit of filling the hungry birds, to the safety of our garden fruits. But there is no good reason why a portion at least of the fruit should

not be preserved. Carefully netting might baffle the birds, and pleasure and profit be made to go together. Thus might the eye be more fully satisfied with beauty, the palate gratified with an increase of good things, and artistic taste extended and improved by a liberal scattering or grouping of fruit-bearing trees throughout pleasure-grounds and plantations all over the kingdom.

*Hardwicke House.*

D. T. FISH, F.R.H.S.

### PROTECTING CHOICE YOUNG SPECIMEN TREES.

HERE is much to be done by a judicious selection of the sites in which young specimens of newly-introduced and choice trees are to be planted. After they have become inured to our climate, and we can save seed and raise seedlings, they may be planted like other things—anywhere; but in the case of all newly-introduced or tender trees, &c., my rule is, that if I have not natural shelter from south-east, round by north to west, or south-west, I make a temporary screen, and only admit the sun on the plants in winter after it has got round near to the south. Thus the hoar frost—that great enemy to all fruits, vegetables, trees, and shrubs—is subdued, and by the time the sun reaches the plants the atmosphere becomes changed, and no injury takes place, but the trees have the real benefit and enjoyment of being well dried and made warm and comfortable, by sundown. It is astonishing to see how the new Japanese plants grow and luxuriate through adopting this simple method; in fact, anything, whether hardy or not, can thus be made to thrive, and the first year after planting may be induced to start into luxuriant growth which is afterwards maintained. What is the use of making a careful preparation for a healthy thrifty plant of any kind, and yet to plant it without affording it the necessary amount of shelter?

The secret of our having here such numbers of fine and rare trees is that I always adopt the rule of planting rather high, on raised mounds, according to soil, climate, exposure, and situation; and that I always form a temporary shelter at once, by means of any easily come-at-able evergreen boughs, branches of furze, &c. The method is remarkably simple. If I have not got stored up, as I generally have, bundles of evergreen prunings, I go to the nearest shrubbery and thin out some branches; these are stuck into the ground at the required distance, in a circle around the plant, and are then bent down, and the tops interwoven together. Thus, in less than five minutes, I have a perfect screen of basket-work of, say, 3ft. high, for the newly-planted young tree. If the shelter is required to be of a greater height than this, it is only necessary to stick another tier of branches into the rim of the basket-work, and interweave them as before. Then, when winter comes on, I stick another row of branches into the rim, pull them together at the top, and give them one tie with an osier or piece of rope-yarn, and in a couple of minutes I have a dome formed over the top, which, if too thick on the side where the sun is to be admitted, can be cut with the knife

or pruning scissors to the desired thickness. In this way we may provide, in a very few minutes, a neat and efficacious shelter or screen, which will afford just as much air and light as may be desired.

By this simple mode of protection almost any plant may be made to thrive, and in two years it will have made more healthy luxuriant growth, and become better established, so as to show more of its true character, than a neighbouring unsheltered plant would have done in ten years. A friend to whom I sent some choice young conifers, and whom I advised to protect them in the way above explained, failed, attributing his discomfiture to the climate. He had, it seems, stuck in some loose boughs, which the wind twisted about so that they did more harm than good. But when he came here and saw how easily the whole thing was done, he threw up his arms and scratched his head, in sheer astonishment at its simplicity, and by way of admiration of its efficacy.

Dicton.

JAMES BARNES.

#### NOTES ON LILIUM GIGANTEUM AND AURATUM.

WE have all been familiar from our youth up with the Lily, the early mention of which in the Sacred volume has tended to make a deep impression upon our memories, so that the name, like that of the rose, the violet, the pink, and other favourite flowers endeared to us by early associations, seems to convey a meaning which no other term could supply. There are a host of plants which share the name of Lily, such as the Guernsey Lily, the Day Lily, and the sweet Lily of the Valley; but it is to one or two species of the genus *Lilium*, the true Lilies, that my present remarks will be confined—to *Lilium auratum* and *L. giganteum*, undoubtedly the finest and most admired species of the family. They have been grown and flowered in fine condition in plant structures, and the former has also shown itself to be well adapted for window-culture; but it is with the view of extending their cultivation by introducing them to the open garden, that I offer the following suggestions. I have proved *L. giganteum* to be so perfectly hardy in this northern climate, as to endure our winters without any protection. My first success in flowering it was in 1865 (see FLORIST AND POMOLOGIST, 1866, p. 107). The plant, after flowering, was taken up, and had all its offsets removed, the latter being replanted at once in some warm sheltered situation. I had the satisfaction of seeing one of these small bulbs produce seven flowers upon a stem about 6 ft. in height last June, and four others are throwing up fine strong flower-stems this season. These facts serve to prove that open-air culture may safely be recommended for this noble species of the Lily family. When the spot has been selected for planting, a pit should be dug out, 2 ft. in depth, and about the same in diameter, and filled up with a mixture of one-half of loam, and one-half of equal parts bog-earth and leaf-mould. In planting the bulbs should only be just covered, and if the summer is dry, two or three liberal waterings should be

administered. This treatment will secure strong and healthy bulbs. When throwing up its strong flower-stem in spring, this lily, from its stately habit, is a remarkable feature in the garden, contrasting strongly with everything around it.

The general structure of *L. auratum*, with its heavy head of flowers and leggy stem, would seem at a first glance to render it unsuitable for out-door planting; and as, like the Gladioli, the season is far advanced before its flowers open, and even then they are not of long duration, it would be set down as ill adapted for planting by itself. The plan which I take to obviate these defects with the Gladiolus is to plant wide, and to grow between the rows mixed varieties of double-branching larkspurs, kept pegged down. When sown in a little heat, and nursed on to form strong plants, they flower on throughout the season, and assist wonderfully in giving a character to the group. I purpose adopting a similar plan with *L. auratum*, but instead of using larkspurs, I shall plant it in a mixed bed of sub-tropical plants, and I believe its massive head of flowers will contrast to good effect with the surrounding foliage. The first important point is to select the warmest and most sheltered situation to be found. The beds should be trenched deeply, and in the operation thoroughly decomposed manure should be well incorporated with the soil, or should the latter be a strong heavy loam, a liberal portion of sand and leaf-mould may be added with advantage. A bed composed of the following plants, arranged according to taste, surrounded by an edging of a single row of *Centaurea ragusina* and pineapple beet planted alternately, will have a fine effect:—*Canna* of sorts, *Ricinus* of sorts, *Humea elegans*, *Arundo Donax variegata*, *Tritoma Uvaria*, *Lilium auratum*, *Gladiolus* of sorts, and variegated maize. The plants will require to be well established, and carefully hardened off before they are turned out. The list might be greatly extended, but I have confined my remarks to those plants which I have found to succeed well here.

Gordon Castle.

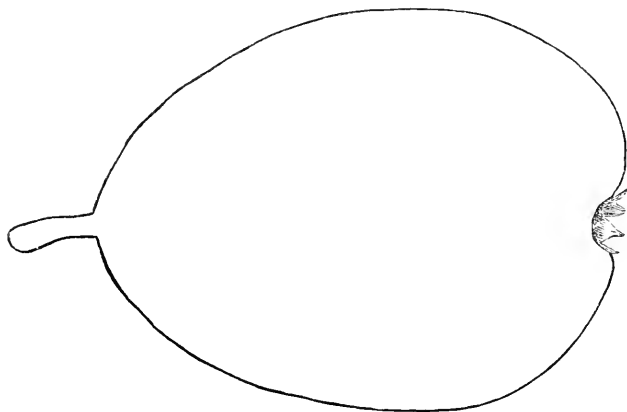
J. WEBSTER.

### WASHINGTON PEAR.

THIS is a small early Pear, of more than average merit as regards flavour, hardness of constitution, fruitfulness, and general usefulness. For flavour, and the texture of its flesh, it is altogether first-class. In appearance, however, it is much wanting, the fruit in general being small and rather scrubby-looking, the outline here given being that of a full-sized fruit, while many of them are considerably smaller. It may be thus described:—Fruits below medium size, obovate, regular in outline, the surface even. Skin smooth, of a pale green colour, slightly speckled with russet, like the Doyenné Blanc, but as the fruits ripen after being gathered, the colour in most cases changes to a uniform pale yellow. Stalk about half an inch long, moderately stout. Eye rather small, with the segments erect, open. Flesh white, perfectly melting, very juicy, the



juice rich and sweet, a little musky, very refreshing, and grateful to the palate. Tree hardy, and a prolific bearer as an orchard standard. Season, beginning of September, extending to the middle or end of the month. The fruits ripen in succession, like those of the Seekle, as they fall from the tree; it is, however, better to gather them when they begin to fall, as by that means their season is prolonged, and they are also of better flavour, than if allowed to ripen on the tree.



This is a Pear of American origin, as its name implies, and rather an old one too; yet it has somehow or other been strangely neglected, and is at the present time almost unknown, having been passed over for more showy, but less worthy varieties. To our knowledge, it has never yet been figured or described. We have, however, three manuscript notices of it, beginning with that of Mr. R. Thompson in 1829, all speaking of it in the highest terms. To this we add our own experience of it for several years, and heartily recommend it as a good and useful early Pear. B.

### THE STOCKS OF APPLE AND PEAR TREES.

MUCH has been said and written respecting the influence of the stocks on Apple and Pear trees. In general, dwarf apple trees are grafted on "paradise" stocks, and pears upon the quince, with a view to their being made bushy; while standards of both kinds are respectively worked on crab and pear stocks to increase their growth. But though both methods are in common use, the practice just named hardly accords with the theory that the tops of trees have as much influence on the roots as these have on the branches. This being admitted, the grafting of a rank-growing apple on a weakly or "paradise" stock will only tend to give more vigour to the roots; and the reverse will follow from grafting a tender kind upon a crab or hardy stock. The same remark is applicable to pears, both on quince and wild-pear

stocks. Now, I observe that cultivated apple and pear trees are of stronger growth than wild ones; at least, crab trees are seldom so large as apple trees of the orchard. This confirms what I have said as to the tops of trees having much influence on the extension of the roots—a proposition which, though it may be new to some persons, is strictly true.

In the case of the grafted trees, possibly they derive more nutriment from the influence of the sun upon their leaves. The same is to be said of seedlings or ungrafted kinds, the growth of which varies according to their peculiar habits, and continues to do so after they are grafted for increase upon stocks which are raised from pips or seeds of apples and pears. Those having small leaves and spines—or thorns, come nearest to the crabs and pears of the hedgerows; while the free-bearing sorts of both kinds are generally of dwarfer habit than the less fruitful ones. The Hawthornden Apple and Gansel's Bergamot Pear are good examples of this. Some think that grafting the less fruitful kinds upon the tops or branches of the "free-bearing" ones will tend to greater fruitfulness. I have tried the plan myself, but with little or no success. Indeed, it could not well have been otherwise, for grafting does not alter the original virtue of the bark or rind of the adopted branches, while these have their proper nutriment from the influence of the sun upon the leaves, as already named; and it is on the peculiarities of texture in these that the varieties of the fruit depend, though the quality may vary according to their state of health.

Although I have made the above remarks on apple and pear stocks, and am well aware that they are the best for practical use, yet I repeat that success depends more on the natural or peculiar habits of the grafts, than on that of the stocks.

J. WIGHTON.

### AILANTUS SILKWORMS.

THE Ailantus Silkworm (*Bombyx Cynthia*), like the Yama-mai oak variety, is a native of Japan, and is deserving the attention of silkworm-rearers in general. Whether for profit or amusement, it is an interesting insect. Although the cocoons are not easily reeled, still there is a sale open for them, for they are used for producing spun silk, which is very durable and strong. The amateur will certainly be pleased, if his only reward be the obtaining of specimens of the very beautiful moths.

Ailantus Silkworms are easy to rear, being so hardy as to succeed in the open air; but I think the best plan to follow in order to rear a few as an amusement, would be to do it on Ailantus plants in an airy room. The plants could be planted in large pots or tubs. This year, I dare say, the eggs will hatch early. Some method of protection seems desirable other than that of putting the young larvæ into muslin bags, which is only practicable with a small quantity. Last year I sent eggs and young worms through the post into various districts for trial; but the great heat, I believe, was disastrous, killing not only this variety of silkworms,

but also the oak variety, &c. Therefore, I would propose that trials should be made in different ways,—indoors, in sheds, in the shade, with south and north aspects, &c. One thing is certain, namely, that persons producing *Ailantus* cocoons can now dispose of them for manufacturing spun silk; therefore, there is some inducement held out for promoting the rearing of these silkworms in England. I shall be glad if my friends would note their experiments this year, and communicate any information they may thus obtain.

*Old Catton, Norwich.*

LEONARD HARMAN, JUN.

### SEASONABLE HINTS FOR AMATEURS.—JUNE.

**B**EDS and borders should now be planted as soon as possible. Ranunculuses, Tulips, Hyacinths, and other bulbs may be carefully lifted and laid in to ripen off, before being stored away; this will liberate the beds for “bedding” plants, which should be got in without delay. Dahlias and tender annuals generally do best when not planted out before June, but they should be got out as early in the month as possible, so that the whole place may be put into a neat and orderly state, in which it should be kept throughout the entire season. Roses will now require much attention; they should be looked over, the shoots properly regulated, and the weak ones tied up; all bad buds should be removed. Caterpillars are often very destructive to roses, eating the leaves and buds wholesale. The best means of destroying them or keeping them down is to look frequently over the bushes, and wherever they are perceived, to pinch the leaves with the fingers. In dry weather Green Fly is often very troublesome, but syringing two or three times with weak tobacco-water will clear the plants of them.

As many as possible of the hard-wooded plants past flowering should now be removed to a sheltered situation in the open air, where they will be partially shaded at midday, but fully exposed to the morning and evening sun. This will allow the greenhouse to be kept warmer whilst the grapes are “setting.” The plants will also require less attention than if kept in the house. They should be set level and on a hard solid piece of ground, so that worms may not enter the pots, and stop up the drainage. Plants requiring shifts should at once be put into larger pots, always taking care that these are clean and well drained. It is always a safe plan not to overpot any hard-wooded plant, and in potting the soil between the ball and sides of the pot should be well pressed down and made solid. Tender annuals should be encouraged to grow by shifting into larger pots, using rich soil, composed of loam and rotten dung, or peat and leaf-soil mixed in different proportions according to the nature of the plants. Soft-wooded greenhouse plants in pits and frames should also be encouraged to grow by increasing the size of the pots as they require it. Watering, which should be done in the evening, must now be well attended to.

Owing to the fine seasonable weather of the past month, vegetables of all

kinds in the Kitchen Garden look in a vigorous, healthy, growing condition, very different to what they did in June last year. Peas and Beans, having been in flower early last month, will be fit for use early. The main crops of some kinds of vegetables having been sown, the principal work now to be attended to is to thin them out properly and in time, and to stir up the soil between the rows frequently with a hoe. A small row of Celery for early use should now be planted in a well-manured trench; but the principal crop for autumn and winter use should not be planted out before next month, as when planted out early, should dry weather set in, it is apt to "run," and it is seldom so nice and tender as when grown quickly on later in the season. Good breadths of Broccoli of sorts, Brussels Sprouts, Savoy, and Borecole should be planted out about the middle of the month. Cauliflowers for successional crops, also Lettuces, should be planted. Peas, Beans, French Beans, and Scarlet Runners for late crops should be sown in the early part of the month. Turnips and Spinach for succession should be sown. Tomatos should be planted and nailed up to a south wall. Sweet Basil and Marjoram should be planted on a south border. If Cucumbers and Melons have a nice steady bottom heat, they will not require any further attention than giving plenty of air, watering when necessary, and stopping and thinning out the shoots to prevent them getting overcrowded. After showers, weeds will spring up fast; if hoed over the first fine day, they soon die, but if neglected, they will require more labour to get rid of them.

Fruit trees will now require constant attention. The young shoots of Peaches and Nectarines should be nailed in or tied as they advance in growth. Apples, Pears, and Plums should be gone over frequently, and the shoots thinned or stopped and nailed in when wanted. I must repeat the advice already given respecting the necessity of well thinning all kinds of fruit when it can be done; there cannot possibly be a greater mistake in fruit-growing than to allow any tree to carry too heavy a crop. Besides the injury to the tree, it is much preferable to have a reasonable crop of superior fruit, to an abundant or excessive one of inferior quality. Caterpillars are often very troublesome and destructive on Gooseberry bushes. If attended to in time, they are easily destroyed by dusting over them, with a common tin pepper-box, a little white powdered hellebore. It is rarely necessary to repeat it, so effectually does it clear the bushes of them. Caterpillars are also often troublesome on Pears and Apricots. Being wrapped up in the leaves, it is somewhat difficult to reach them either by dusting or syringing; pinching the shoots with the fingers, and hand-picking them, will, if timely begun and persevered in, clear the trees of them. The Black Aphis, which sometimes attacks Cherry trees and occasionally Peach trees, is rather difficult to destroy; perhaps the easiest way of getting rid of it is to cut or pinch off the ends of the shoots; it may be destroyed by dipping the shoots a few times in tobacco-water, but this is a tedious operation, and where a number of trees are to be gone over, takes up much time. The Green Fly that attacks Red and Black

Currant bushes is easily got rid of ; these always attack the ends of the shoots, and their presence is soon indicated by the curling of the leaves ; the bushes should then be carefully gone over, and the ends of all the infected shoots should be pinched off. This should be attended to in proper time, for if it be delayed, the fruit will soon get all covered with honey-dew, which spoils its appearance. Vines in greenhouses should have as much artificial heat as it is possible to give them, consistently with the well-being of the regular occupants of these houses, abundance of air being given daily. Bad borders, want of artificial heat, and want of air, are at the top and bottom of all bad Grape-growing.

*Stourton.*

M. SAUL.

### THE TOMATO.

THE immense importance of this vegetable in the domestic economy of the middle-class is beginning to be felt. We see in [Manchester a regular supply in the market, and good prices are paid. An American clergyman told me that in his parish there was a greater weight of Tomatos brought to market than of any other vegetable, and he could hardly relish our dry dinners, when Tomato sauce was wanting. He reckoned the Tomato among sauces, to be like the jelly of the stock-pot among soups, taking all forms and flavours according to the ingredients with which it is seasoned. Fortunately, this luxury—the Tomato—is quite within reach of thousands of FLORIST readers, as it may certainly be home-grown without the aid of glass or even of walls. And as to the question of cooking Tomatos, we may safely leave that to the general spread of education, which, like the railroads, will, no doubt, eventually level up, or level down, any little prejudice that there may be against them.

The Tomato plant, or Love Apple, when not in fruit, is particularly uninviting in appearance. Like the potato, it belongs to the *Solanaceæ*: indeed, the stem and foliage have very much the appearance of those of a tall-growing late potato, rising like that to the height of about three feet ; but beyond this, its resemblance to the potato ceases, and, indeed, it has very little in common with the Frenchman's "apple of the earth," for in the case of the Tomato, the apple, or fruit, is the only part that is eaten, whereas in the potato the apple, or fruit, must not be eaten. The Tomato is simply a tender annual of the easiest culture, growing freely from seeds, which are to be had cheaply enough at any seed shop ; but it frequently happens that the plants ready grown may be purchased like celery plants, in the market, in large towns, and thereby a good deal of trouble in rearing them may be saved. If the seeds are sown in thumb pots in a warm place in April or the beginning of May, they will be fit for their final transplanting about the first week in June.

The Tomato is a plant of rough, coarse growth, and would get sadly out of bounds if it were not confined and stunted ; but as it "bears wrongs patiently,"

it can be checked by want of pot room in the first instance, and afterwards by thinning and stopping its branches. It is fortunate that this plant is a denizen of the kitchen garden, where appliances that would be unsightly in dressed ground can be resorted to, for the Tomato is fond of a south wall, or even a melon frame if it could get it; but it is not to its culture under glass, or against a south wall, that I would now direct attention, but to its bearing Love Apples in anybody's garden.

Land sloping gently to the south, sheltered by surrounding plantations, and having a substantial barrier, such as a stone or brick wall, against the northern blast, and to reflect the sun's rays, would be considered as signs of a sheltered spot suitable for growing tender plants. All these features must be carefully imitated, for it will be evident to every one that a tender plant cannot but suffer from the effects of a cutting wind; and hence experienced nurserymen chequer their grounds with Evergreen hedges to shelter the crops enclosed in the squares or quarters. But of all others, the sailor is the man from whom to learn this science of the wind, for it is his first thought in the morning to ascertain the point from whence the wind blows, and the power it puts forth; and you may see the "ancient mariner" hang a canvas sheet against the wind to shelter the man on the out-look, for in our climate the wind is constantly running away with the heat, and leaving the cold behind. Now, this common-sense practice is all that is required in the open garden to protect the Tomato from the sweep of the wind. Instead of planting it, like cabbage plants, on the level surface of the garden, it has to be grown in pens or pits. The earth will lie with little trouble when made to slope two feet horizontal to one foot perpendicular, and with a very small amount of digging and banking, or, as the navvies have it, "cutting" and "filling," it will be easy enough to get a breastwork sloping to the south, and rather longer than the three-foot stem of the Tomato. On this slope a thin coat of small coal, blue slate, or even limewash, to reflect the heat, and act the part of a wall, should be placed, and the ground should then be chequered with such things as pea-sticks to make dead hedges. Of course wooden walls of stakes two feet high or turf walls will answer, or indeed any barrier that will last for one season; indeed, straw ropes on rough stakes where straw or litter abounds, would require little labour to erect, and still less to clear away when not wanted. The whole thing will look like pens for sheep or pigs at a fair, but the clumsiness of the materials has nothing to do with the principle involved. The rifleman in a rifle pit is safer there, than he would be standing like a gate-post on the level, and he is, moreover, warmer; and the object of the Tomato-grower is to lengthen the summer a little, and to concentrate the fair weather, and turn aside the foul weather. The plants must be tied to sticks, or trained against the boards, as the fruit is heavy. More accurate instructions might be given, were it not that in each locality the ways and means will vary.

ALEX. FORSYTH.

## THE CAMELLIA AS A SHRUBBERY PLANT.

**I**T may not be generally known that the Camellia is comparatively as hardy as the common Laurel, and as manageable, since when well established it will bear any amount of cutting back and trimming into shape, while the beautiful dark green colour of the glossy foliage contrasts admirably with the lighter-foliaged plants in the shrubbery. Therefore, I see no reason why it should not be more extensively used for intermixing with other shrubs in the open borders.

It is generally supposed that the localities in which Camellias will flourish are confined to the south and south-westerly parts of the country, but I do not see why a plant so suitable and desirable should be entirely confined to those districts, as it is growing here side by side with Laurels, Hollies, Portugal Laurels, and Rhododendrons, and submitting to any amount of frost with an equal degree of impunity, so that we may reasonably conclude that it is equally hardy. With a little more attention paid to securing a suitable compost to plant them in, Camellias may take a prominent place as shrubbery plants. In sheltered situations, and in favourable seasons, they will produce flowers most profusely; but as this takes place in the early spring, they are liable to have the flowers discoloured by the morning frosts, so that their flowering must, in a general way, only be looked upon as a secondary object where they are planted for the sake of their foliage in the mixed border.

Supposing, however, the production of flowers to be the primary object, it would only be necessary to select a very sheltered situation, and to provide a temporary framework, with a canvass covering to stretch over them at night, as soon as the flowers begin to expand. This would preserve them in great beauty for a long time, and under very favourable conditions as to soil and season the flowers would be as fine as most of those grown under glass. Without protection during the time of inflorescence, such a result cannot be attained in the midland counties; yet, although this might be urged as an objection, it need not militate against their being planted for the sake of their foliage, taking the flowers according to the seasons—sometimes fine without any care or trouble, at others nipped off in the height of beauty in a single night.

For flowering purposes a warm and sheltered southern aspect is best, otherwise no regard need be paid to aspect, as the plants will grow on any—east, west, north, or south; but it is necessary to observe that the situation in which they are planted should be sheltered from boisterous and cutting winds. Mere cold will not hurt them, but when it is accompanied with fierce and driving winds, it is apt to discolor the foliage very much. As a general rule, shady borders are more favourable for the development of the foliage than those which are exposed to the full glare of the sun; and hence they are found to be capital plants for covering a north wall. From such a situation I have gathered, even this season,

flowers equal to the same variety grown in the conservatory, but this is exceptional.

I do not advocate planting out the very delicate and choice varieties, as the flowering seasons are so very uncertain; on the contrary, the very commonest sorts, provided they have a strong and robust habit, are by far the best to plant. Several fine plants here, are of the old single red kind, others are seedling plants which have not been considered worthy of pot culture, and these have the hardiest constitutions. Moreover, when we have any old or sickly-looking plants in pots, we never throw them away, but plant them in some odd corner either in the shrubbery or against a wall, where, while some will gradually die away, others take to growing, and eventually make nice plants. Some have been upwards of twenty years in the same place, and have scarcely at all increased in size, but year after year expend their vitality in the production of flower-buds.

The Camellia is not easily killed under pot culture. Its greatest enemy is a sour and waterlogged soil, yet it is astonishing how long a plant will live in such a soil without flourishing. Water, however, and that in great abundance, is an absolute necessity, but the soil and drainage must be of such a nature as to let the superabundance pass freely away, leaving the soil sufficiently saturated without inducing sourness. This should be a guide to the formation of a compost. I advocate equal parts of tough fibry peat and strong fibry loam, to be used in as lumpy and rough a state as possible. Stimulation during growth is necessary, but should be applied from the surface; no stimulating materials should be mixed with the compost.

*Redleaf.*

JOHN COX.

## DEUTZIAS AS DECORATIVE PLANTS.

**B**EAUTIFUL and easily grown, the Deutzias (*gracilis* and *crenata flore-pleno*) are so useful for decorative purposes that no place should be without a good stock of plants. They are readily forced into bloom, and by putting a few at a time into heat a regular succession of flowers may be had from January till June. For conservatory decoration they are invaluable in the winter and early spring months, as there is something so charming about their fresh-born leaves, and delicate flowers, at that season. They are readily increased by cuttings of the half-ripened wood planted in sandy soil, and placed in a cucumber or melon frame where there is a little bottom heat. The present is a good time to put in cuttings. When rooted, they should be potted off and placed in frames until they begin to make fresh roots, when they may be placed in the open air. As soon as they begin to grow they should be stopped; this will cause the bottom buds to break. When the pots get tolerably well filled with roots, they should be shifted into larger pots. They will grow in any light, rich soil, but a mixture of loam, leaf soil, and sand suits them admirably. As the plants grow, they should be frequently stopped, so that they may become well furnished.



Year after year the plants can be grown in the open air. In winter they may be housed in any cold pit where the frost can be kept out by temporary covering; and from this a few can be taken any time, as they are wanted to be put into heat. Old-established plants are very little trouble in summer, as after they have done flowering they may be plunged into the open ground, or in coal ashes, and require little or no artificial water or attention. It is advisable to have them all under cover during the winter, so that they can be got at in any kind of weather when they are wanted.

*Stourton.*

M. SAUL.

### NEW FLORISTS' FLOWERS.

AT the Ghent International Horticultural Exhibition, in 1868, there was a great number of new *Azaleas* staged, and some of them were highly spoken of at the time. It is only natural that some of these should be just now appearing in England, and Mr. C. Turner, Slough, leads the way as an exhibitor of these new varieties. Thus, at the meeting of the Floral Committee, on the 4th of May, he received a First-Class Certificate for *Madame Van der Cruyssen*, a bright rose-coloured flower, having the upper lobes somewhat heavily spotted with dark purple; a showy sort for exhibition purposes, but not first-rate in form, being somewhat flat, and irregular on the edges. Again, at the Royal Botanic Society's great show, on the 19th ult., he exhibited quite a batch of new kinds, and received a First-Class Certificate for *George Eyles*, of a soft pale salmon-red hue, a bold and showy flower, large, and tolerably smooth; while a Second-Class Certificate was awarded to *Reine Marie Henriette*, a large and novel flower of a pale fleshy-pink colour, with a narrow margin of white, and a pale centre, some of the flowers having a broad flake of pale scarlet, and all having the upper lobes handsomely and boldly spotted with violet-rose. In the same group were *Mrs. Turner*, a variety in the way of *Criterion*, spotted and flushed with rose, but somewhat thin; *Eclatante*, bright orange-red, a telling hue of colour; *President A. Verschaffelt*, salmon-red, bold, but somewhat loose; *Duke of Buccleuch*, in the same way, but slightly paler; *Frederick II.*, still of the same character, but paler; and *La Paix*, a variety in the way of the purple *Duc de Nassau*, but not so good in quality of flower.

Fit companions for the charming *Azaleas* are the new *Clematises*, exhibited by Mr. C. Noble, Bagshot. At the meeting of the Floral Committee, on the 4th of May, First-Class Certificates were awarded to *Albert Victor*, having large, smooth, well-formed flowers of a shaded lavender-purple; and *Miss Bateman*, pure white, a charming flower. Both these have bold and full-petaled flowers, and, coming as they do, from a cross between *C. Standishii* and *C. Fortunei*, they will be of great value for their early-blooming properties under glass. At a later meeting, a similar award was made to another fine variety of the same batch, named *Lady Londesborough*, with flowers of a very distinct pale lilac hue, the sepals having a

paler bar running along their centre; this, too, is a beautiful flower. *Duke of Buccleuch*, a pale grayish violet; *Lady Emily Talbot*, blush, with a white bar down the sepals; and *Lord Napier*, pale reddish-tinted purple, also belong to the same batch. A large, pure white forcing *Pink*, named *Alba Multiflora*, received a First-Class Certificate. This was shown by Mr. Wadson, florist, Hammersmith, and promises to be a most valuable acquisition.

Some of the newer double-flowered *Pelargoniums* are just beginning to put in an appearance. There are three varieties so thoroughly distinct and good as to deserve record here, viz., *Marie Lemoine*, rosy-pink, much deeper than *Madame Lemoine*; *Mons. de St. Jean*, deep carmine, distinct, and very good; and *Wilhelm Pfützer*, rich glowing scarlet, very showy and bright, and of a dwarf habit.

Mr. Turner's pretty new Hybrid China *Rose*, *Miss Ingram*, was awarded a First-Class Certificate at the Royal Botanic Society's Show, on the 19th ult. A small plant was exhibited, having three well-developed flowers, the colour blush, with a deep flesh-coloured centre. Perhaps it is open to doubt whether it be judicious to give certificates to forced *Roses*, but as there are plenty of precedents for adopting such a course, it is too late to raise the question.

Mr. J. Butcher's new grey-edged *Auricula*, *Mrs. Butcher*, has developed into a first-class flower, and a First-Class Certificate of merit was awarded to it at one of the meetings of the Royal Botanic Society, a few weeks ago. *Alpine Auriculas Constellation* and *Brunette*, both from Mr. Turner, received the same award; both have rich maroon-crimson-coloured grounds, with bright gold paste, and are undeniable additions of merit to Mr. Turner's already fine collection. A dwarf-growing *Wallflower* of great promise, as likely to be useful in the spring flower garden, has just been shown by Messrs. Carter and Co., and is called by them *Yellow Tom Thumb*. The flowers appear to be nicely rounded, like those of *Cheiranthus Marshallii*, and it blooms freely, and gives a good mass of colour. However, yellow is the colour least wanted in the spring garden. R. D.

## MONTHLY CHRONICLE.

MAY meetings have been plentiful in the world of Horticulture. There have been held the usual Great Shows at the Regent's Park and Crystal Palace, the former quite up to, the latter rather below, the average of merit; a Spring Show and a Special Show at Kensington; a National Show at Manchester, which was both comprehensive and excellent; and the Show of the Royal Horticultural Society of Ireland, besides the usual Committee meetings, &c. Mr. Turner's large specimen *Roses* were the finest features at the Park, and an eloquent rebuke to those who would abolish what are called large specimens and large pots at our great shows. At the Palace the show of Bouquets was the most attractive feature, but rather from its novelty than its excellence. However, the very fact that nothing very original or *recherche* was brought forward, is a sufficient evidence that there is an opening in this direction, and we trust that bouquet exhibitions will be persevered in, with the improvement suggested by a correspondent of the *Gardeners' Chronicle*, namely, that amateurs and artists should compete separately. The main features of the Special Prize Show at Kensington were the groups of Variegated Zonal and Gold and Bronze *Pelargoniums*, the former showing beautiful colouring, but not much advance in the direction of novelty; the latter showing both high

colouring and improvement. At Manchester Mr. Baines's group of fifty miscellaneous flowering and foliage plants, including his wonderful *Sarracenias*, occupied the place of honour; and in Dublin, according to the report, the pot roses were the greatest triumphs. The Great International Horticultural Exhibition of St. Petersburg opened on the 17th ult., and was continued till the 28th ult. This exhibition was rather limited in the floral department, but was otherwise fairly supported, though the arrangement, from the too profuse introduction of rock-work in imitation of Alpine scenery, is said to have been extremely artificial.

— For the Winter Decoration of Conservatories few plants are more useful than the *Solanum Pseudo-Capsicum*, which is thus grown at Bicton:—The old plants are kept over from year to year, and about May are cut back, stripped of the old leaves and berries, and planted out of doors in very rich soil. They are allowed to grow freely till the autumn, when they are again taken up and potted, and placed in the different houses to exhibit their bright, lively berries. They undergo the same treatment in succeeding years, and thus managed, the plants become huge bushes, from 3 ft. to 4 ft. high, and as much through, bearing a peck or more of berries. They are really magnificent decorative plants when grown to this high state of perfection.

— THE Gold and Silver Ferns seem liable to a great amount of variation, and intermediate forms, whether hybrids or sports, are often very distinct and beautiful. Such is the case with some that M. Stelzner, of Ghent, has sent us. The most striking is *G. Laucheana gigantea*, a richly-powdered form of the *chrysophylla* group, growing to a large size, and having remarkably broad leafy pinnales; this will be found an extremely decorative plant. *G. aurea pendula cristata* has the same free-growing habit as the former, but with a multifid apex to the somewhat narrower fronds, and is of freer growth than most of the crested varieties of Gold Ferns. *G. Stelzneri superba cristata* is another Golden Fern more sparsely powdered, but very distinct and elegant; it has a multifidly-forked apex, the tips of the pinnae broadly fingered, and the pinnales also broad.

— IN the beautiful Spring Garden at Belvoir, Mr. Ingram adopts a plan of growing Hyacinths, Tulips, &c., by which they may be transferred to the beds without injury, at any stage of growth. They are potted in small 60-pots in November, and are placed in some sheltered position, and covered with light soil; they remain thus covered until they begin to grow—probably until January. They are then removed to cold pits, and treated according to the season, so as to ensure the bulbs blooming in March. Some time in that month they are plunged, without being removed from the pots, into the beds arranged for them. At the end of April or early in May the bulbs are removed from the flower beds, and turned out of pots, and planted in beds of rich soil reserved for them. Treated in this way the bulbs receive no injury, and are fit for use the following year.

— THE new Rose, Madame la Baronne de Rothschild, which was last season considered as “the” Rose of the year, has this season confirmed the opinion previously formed of it, and may be considered the best flower of its colour in cultivation; for, beautiful as are such roses as Marguerite de St. Amand, Monsieur Noman, &c., they must all yield the palm to Madame la Baronne de Rothschild, with its large deep globular flowers, and its clear silvery-pink delicate colour, with perfectly smooth, immensely large, thick petals. The habit is remarkably robust, the foliage ample, and altogether it is one of the most noble and beautiful of all pale perpetual Roses.

— THE best Permanent Shade for plant houses is linseed-oil and sugar-of-lead, in the proportion of about a tea-spoonful of the lead to a quart of oil. The exact tint must be governed by the amount of shade required; therefore it is best to apply the lead gradually, and prove it upon waste glass. The *modus operandi* is this:—First wash the glass thoroughly clean, and then on a dry clear morning put on the oil and paint as thinly as possible over the glass with an ordinary paint brush; then follow with what the painters call a dusting-brush, loose and quite dry, and by dabbing it gently on the oiled portion, a frosted or ground-glass appearance will be given to it. An ordinary garden labourer, with a little practice, will do this very nicely.

— **COLEUSES** intended for Winter Decoration should be raised from cuttings put in in July, the plants being potted on as required, and pinched in to give them the desired form. They will be found remarkably effective during the winter months, being excellent for grouping amongst other plants, while their smaller branches come in useful amongst cut flowers at a season when flowers are scarce. *Coleus Verschaffeltii*, *Veitchii*, &c., require a rather high stove temperature to keep them in respectable trim during the winter, and this is a drawback; but many of the new hybrids, such as *C. Bausei*, *Marshallii*, *Berkeleyi*, and *Saundersii* do exceedingly well in a temperature which might be called intermediate, averaging at night between 45° and 50° only.

— **THE** Prize of £5 for an essay on the Variegated Zonal Pelargonium, to form a basis for discussion at the meeting of exhibitors and others, held on the day of the Special Pelargonium show at South Kensington, was awarded to Mr. Grieve, of Culford, the author of an excellent treatise on this family of ornamental plants, of which, indeed, he may be designated the founder. Seven essays were sent in, of which a second by Mr. Smith, of the Jersey National School, was considered sufficiently meritorious to be recommended for a second prize of £2.

— **AT** a recent sitting of the Scientific Committee of the Royal Horticultural Society, Dr. Masters exhibited, on the part of G. C. Oxenden, Esq., some drawings representing a yellow-flowered Orchid found wild in East Kent, and which was said to be *Ophrys lutea*, but which, far more probably, was a yellow-flowered Bee Orchis, a singular variety, which has hitherto escaped observation.

— **THE** semi-double flowers of Henri Capron Pear produced this season at Chiswick have had a very beautiful appearance. On a large pyramid tree fully one-third of the flowers were in this state—one or two branches entirely so. This character has not been noticed before, and attention was directed to it through the dense and beautiful appearance of the blossom. The tree, although in the midst of a plantation of over one hundred varieties all in full bloom, stood boldly out, the most beautiful of them all.

— **THE** Sub-tropical plants at Battersea attained great perfection during the last hot summer. The following are the heights of a few of them:—*Ferdinanda emineus*, 12 ft.; *Wigandia caracasana*, 8ft.; *Polymnia grandis*, 6 ft.; *Canna peruviana*, 11 ft.; *Canna Annæi*, 12 ft.; *Canna maxima*, 9 ft.; *C. Van Houttei*, 9 ft.; *Solanum laciniatum*, 8 ft.; *Ricinus*, several varieties, 18 ft.; *Musa Ensete*, 15 ft. The stem of one plant of *Musa Ensete* measured 4 ft. 5 in. in circumference at the ground, and 2½ ft. at 3 ft. higher up.

### Obituary.

— **SIR CHARLES WENTWORTH DILKE**, Bart., died on the 10th ult., of quinsy, followed by erysipelatous inflammation, at St. Petersburg, to which capital he had been invited as one of the representatives of England at the Russian International Horticultural Exhibition. He was born on February 18th, 1810, and was educated at Westminster, and at Trinity Hall, Cambridge. For many years he took a prominent part in the management of the Society of Arts, and that of the Royal Horticultural Society, the resuscitation of the latter being due, in no slight degree, to his exertions. He was a leading member of the Executive Commissions of the Great Exhibitions of 1851 and 1862. He also acted as Chairman of the Committee of the International Horticultural Exhibition held in London in 1866, and in this capacity horticulturists will long remember him for his indomitable energy and administrative skill, qualities which much conduced to the success of that undertaking, with which he retained his connection by accepting the office of Trustee of the Lindley Library established with the surplus funds. Few men who have not been actually engaged in the practice of Horticulture have done more to promote its interests than the late Sir Wentworth Dilke; and his associates in horticultural matters, no less than his personal friends, will preserve an affectionate remembrance of the frank and genial friend, who was ever courteous and sensitive in his consideration for others, and ever ready with his counsel or aid, for those who needed either.





## FIG COL DI SIGNORA BLANCA PANACHÉE.

WITH AN ILLUSTRATION.

**T**O all lovers of beautiful fruits, the accompanying plate of this, the most beautiful of all Figs, will be especially welcome. Our artist, while doing full justice to it, has done no more than faithfully represent it in its true colours, as growing in the extremely fine collection of the Royal Horticultural Society at Chiswick. Nothing can exceed the charming appearance of a handsomely grown pot-tree of this variety, laden with its strikingly handsome figs. The fruits are not all exactly similar to those represented, some being even more streaked (*panachée*), some more irregular in the markings, some almost yellow, and some reverting to the natural green; all, however, are very beautiful, and show their markings plainly, from the first appearances of the little embryo figs, until their maturation.

This is not a new Fig, but a sport from the better known Col di Signora Blanca, one of the finest Italian varieties, which it closely resembles in form and quality, and, like it, requires to be grown in considerable heat, so as to bring out fully the superior richness of flavour. It succeeds best grown in pots, under which conditions it fruits freely, and proves in every respect satisfactory.

Fruit medium-sized, roundish-turbinate, evenly and regularly formed. Neck shorter than in the original. Skin thick, green, beautifully striped with longitudinal bands of bright yellow. Eye small, closed. Stalk short. Flesh deep rose, thick and syrupy, rich, and most delicious.

The figure is taken from fruits of the second crop, which are produced more freely than those of the first crop. The latter are, in general, larger and longer in the neck; indeed, the length and form of the neck of these first fruits are suggestive of the name, *Lady's Neck*. B.

## STRIPED FRUITS.

**A**LTHOUGH striping and variegation amongst fruits is not particularly common, yet sufficiently striking examples of it are to be met with in almost every class. Fruits, like flowers, have their natural colours more or less influenced by the condition of the plant, exposure to the sun's action, &c.; but some are decidedly variegated, as in the fig forming the subject of the foregoing article, this variegated tendency permeating the entire system, and being occasionally seen also in the stems and foliage. Plants with variegated foliage, which are becoming more common year after year, do not as a consequence produce variegated fruits, although occasionally they may do so. It may, then, be said that there are two classes of variegation amongst fruits,—the one natural, as in the most of the apples enumerated below; the other sportive, as in the fig, pear, &c. It is, however, so difficult to define them exactly, that I shall not at present attempt to do so.

The following is a list of all the examples of striped fruits which I can at present call to memory :—

FIG.—*Col di Signora Blanca Panachée*: described above.

PEARS.—*Bourré d'Amanlis Panachée*: beautifully marked with broad bands of rosy red and yellow, very striking, and pretty constant; desirable. *Duchesse d'Angoulême Panachée*, or *Duchesse Panachée*: the quiet green of this fruit is prettily set off with broad stripes of deep yellow. *Louise Bonne d'Abraches Panachée*: this is Louise Bonne of Jersey, very prettily striped with broad bands of rosy red and yellow; very handsome. *Virgoueuse*: fruit pale yellow, striped with rosy red. *Calotte de Suisse*: fruit light green, striped with yellow. *Winter Crassane*: fruits pale green, striped with yellow.

APPLES.—*Reinette Rayée*: this is an exceedingly pretty little fruit, very evenly and regularly marked with broad bands of rosy red and yellow. *Reinette à Feuilles d'Aucuba*: fruits striped with yellow, slightly rosy; leaves resembling those of the aucuba. *Hoary Morning*: very beautifully striped with rosy red. *Yorkshire Greening*: this is at times prettily marked, but not constantly so. *Devonshire Red-Streak*: slightly striped. There are besides many apples showing streaks of colour, but they are not sufficiently distinct to be here noticed.

GRAPE.—*Aleppo Chasselas Panaché*: this is a most singular variety, some berries being prettily striped with black and red, or white, some half black, others half white or red, others again wholly black, red, or white; leaves striped with green, red, and yellow; berries round, of medium size; flavour inferior.

APRICOT.—*Abricotier Panaché* (the Striped Apricot): fruits medium-sized, pale orange, shaded on the exposed sides with bands of reddish orange and pale yellow; leaves prettily blotched with yellow.

CURRENT.—*Striped-fruited*: the fruits of this variety are yellow, distinctly striped with red; it is, however, a very shy bearer. *Commune à Feuilles Panachées* has also the fruits slightly striped, and the leaves variegated.

GOOSEBERRIES.—*Striped-fruited*: this is a greenish-yellow sort, the stripes being of a darker yellow; not very distinct.

MELON.—*Queen Anne's Pocket*: the fruits of this are quite of an ornamental character, small, round, and prettily striped with broad bands shading from dark orange to pale yellow. All the other varieties of *Cucumis Melo Dudaim*, to which this variety belongs, are more or less gaily striped. There are, besides, numerous varieties of Gourds, which are wonderfully beautiful in their striping; but these, though botanically coming under the designation of fruits, since they are not practically used as such, are here passed over.

Although fruits are mainly valued for their eatable properties, yet a pretty appearance is not to be despised; and if equal excellency can be obtained under a more beautiful exterior, the combination of the two qualities is certainly to be preferred. Fruits at the dinner-table should be at once a delight to the eye, and a gratification to the palate. Some object to the high and picturesque colouring of many of these striped fruits, and fancy that they have too much of a painted look about them to be good to eat; they prefer to have fruit of a more natural appearance, such as they have been accustomed to,—red fruits to be red, black fruits black, &c. The same objection might, however, be urged against all forms of variegation and fancy colouring, in leaves as well as in fruits. Highly-coloured fruits are not so often met with in this country as in sunny France, the brighter sun of the South enhancing and deepening the intensity of the colours to a greater degree than they are capable of attaining under our leaden skies. Fruits are not, however, all coloured through the same agency, for whilst sunshine is required to produce red, orange, &c., comparative shade will afford a deeper black and a purer white; and with this remark I end my chapter on Striped Fruits, recommending them strongly to the notice of cultivators.



## PIMELEA HENDERSONI.

**J**ULY is a convenient time in which to take in hand a young healthy plant of the above-named *Pimelea*. Such a plant should be kept in the open air, well exposed to the influence of the sun, from the beginning till about the middle of the month, in order to ripen its wood. It should then be cut down, leaving about an inch of the last season's growth for the plant to break from. The soil must be allowed to become moderately dry before cutting over, and the plant should still remain in the open air, merely providing protection against heavy rains, in case it should be required. This point must be strictly attended to, as with hard-wooded plants it is almost certain destruction if the soil becomes waterlogged, and especially so if this should happen when the plant is divested of the greater part of its foliage. In about a fortnight after cutting, if all has gone right, the young growth will begin to push, and by the middle of August the plant will require a shift into a pot a size larger. Let the drainage be ample, and on the top of it place some rough fibry peat to keep it in working order. Use good fibrous peat, broken up into small pieces, add to this about an eighth part of its bulk of yellow loam, and a sufficient quantity of silver sand to cause the water to pass freely through. Pot firmly, and in doing so keep the stem of the plant sufficiently elevated to make a slight fall from it to the pot-*rim*. Attend well to the operation of watering; when water is given let a sufficient quantity be applied to cause it to pass freely through the whole mass of soil. By the end of September the plant should be removed from the open air to a cool, airy greenhouse, and be placed in such a position that the young growth may be within a foot and a half of the glass, while plenty of air must be admitted on all favourable occasions. In this position the plant should remain until the flower-buds begin to expand, when it should be removed a little farther away. When blooming is over, the plant is to be treated in every way as recommended above. If two or three plants of this *Pimelea* are grown, they may be made to bloom in succession by pinching out the tops of the shoots, at intervals of a fortnight, from the beginning of February till the middle of March.

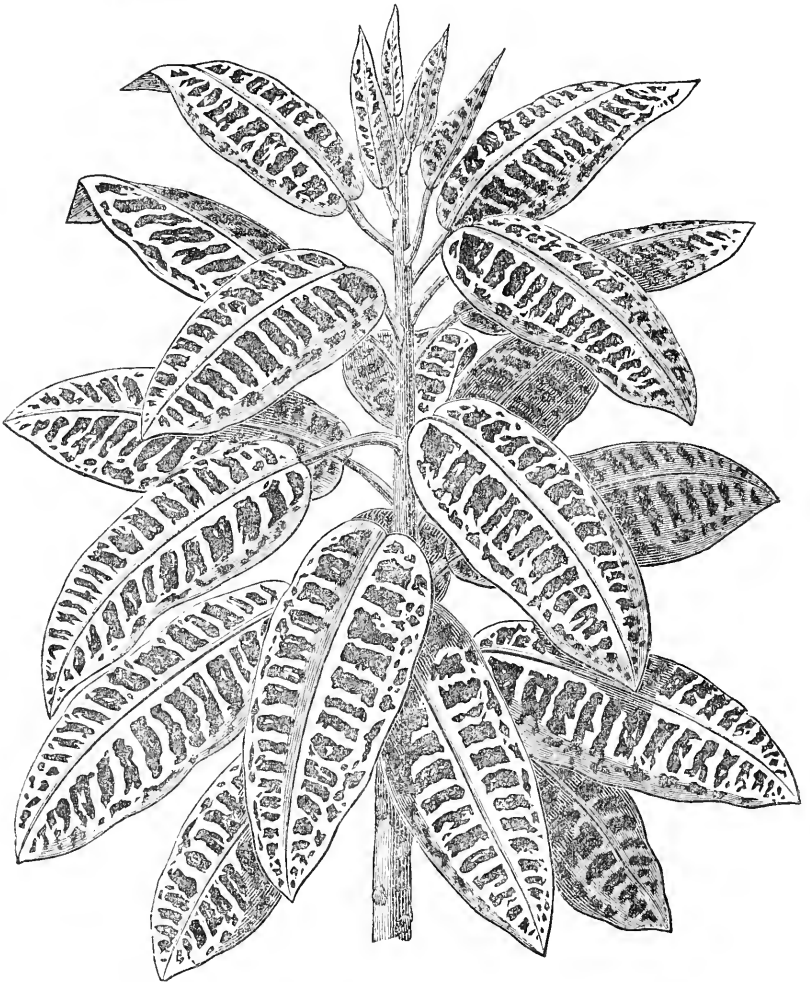
*Somerley Gardens.*

HENRY CHILMAN.

## NEW CROTONS.

**M**OST cultivators of stove plants appreciate the merits of the several variegated *Crotons* known in gardens as *C. variegatum*, *C. pictum*, and *C. lineare*, as the fine specimens produced and their frequent appearance at exhibitions sufficiently testify. These, however, are quite superseded by some of the many noble varieties of this variable species (more correctly called *Codiaeum variegatum*), which were obtained for our gardens by Mr. John Gould Veitch, during his trip to the South Sea Islands; and of two of which we are enabled, through the courtesy of Messrs. Veitch and Sons, to offer illustrations.

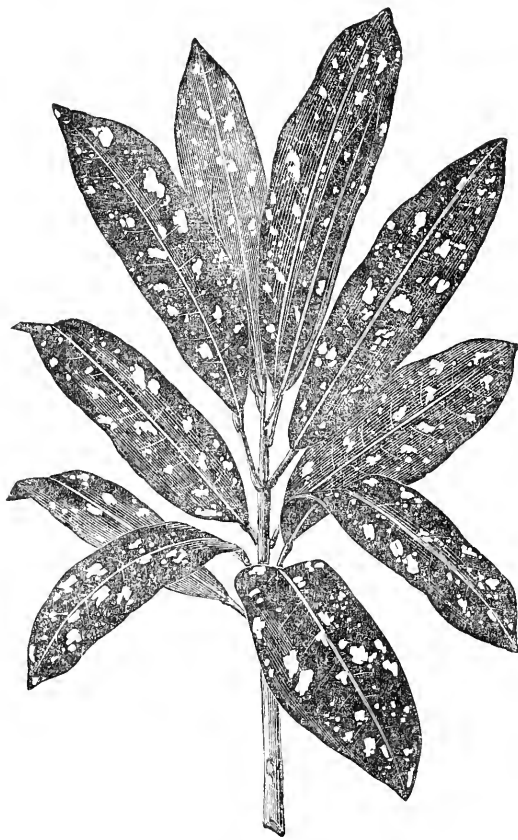
One of the finest of these novelties is *CROTON MAXIMUM*, of which we append a diminished figure. This is one of the largest of the yellow series, producing leaves from 12 in. to 14 in. in length, and 3 in. to 4 in. in breadth, of an oblong-lanceolate figure, acute at the apex, of a rich golden yellow colour, marked on



each side of the midrib with dark green transverse bars of irregular form. The plant is of strong robust habit, and admirably suited either for general decoration or for the purpose of exhibition, so that we may expect soon to see it taking a prominent position in our public displays of ornamental plants.

Fully equal, if not superior to this in beauty, is *CROTON VEITCHII*, which has

leaves nearly a foot long, and about two inches broad, oblong lanceolate, acute, polished, having the midrib, the main veins, and the reticulations near the edge of a clear creamy yellow, which becomes suffused with deep rosy red, the intervening transverse bars being of a deep green. The colouring of these leaves is very beautiful, and the vigorous habit of the plant, as well as the manner in which it displays its foliage, are such as to place it in the front rank of ornamental-leaved stove plants.



We add a figure of another variety, which, though less strikingly beautiful than the foregoing, is remarkably different from any of these, or indeed from any other forms of the species. This is *CROTON AUCUBÆFOLIUM*, a plant which is of compact habit, and has oblong acuminate leaves, 6 in. or 7 in. long, and 2 in. to 3 in. wide, dark glossy green, studded with blotches of yellow, sometimes passing into red; hence it bears a strong resemblance, in its markings at least, to the well-known *Aucuba japonica*.

Of a somewhat different style of marking, but not less beautiful, is *CROTON HOOKERI*, introduced from Erromango. It has oblong lanceolate leaves, somewhat smaller in the examples which have been exhibited than those of the two former, but marked with a broad vandyked centre of very bright clear yellow, the outer margin being green. The strong contrast of colour, and the regularity of the marking, make this a very ornamental plant.

Another distinct form of a strikingly ornamental character is *CROTON WISEMANNIANUM*. This has elongated leaves, of a narrowly lanceolate form, with a yellow variegation, the markings resembling those which occur in the leaves of the commonly grown *C. variegatum* itself.

These plants have all been certificated at one or other of the meetings or exhibitions of the metropolis, and may be safely recommended to the attention of plant-growers, as very far in advance of the ordinary Crotons, on which so much cultural skill is now often expended. M.

### IXIA CROCATA.

**T**HIS charming little flower is so useful during the month of May and in the early part of June, both for decorative purposes in the conservatory, and also as a never-failing source of cut flowers, that it is very much to be recommended, and only requires to be more generally grown to be more fully appreciated.

The culture is exceedingly simple; and as the plant will flourish best without any kind of forcing, it is advisable that the bulbs should not be potted from the dry state too early in the autumn. A nice succession may be kept up by potting a portion of the stock early in September, and the remainder a month or five weeks later. The soil I use is about equal parts of loam, leaf-mould, and peat, with a little sharp silver sand. Four flowering bulbs are enough for a 5-in. pot, and six for a 6-in. pot. The small bulbs which are not likely to flower may be distributed amongst and planted with the flowering bulbs when the plants are to be used for decorative purposes, as they help to produce a dense mass of green foliage; but when grown for cutting purposes this is not necessary, and in that case the surplus small bulbs may be sown rather thickly in seed-pans, and treated entirely with a view to the production of flowering bulbs another season.

In potting, the soil should be used in a moderately moist state, but not wet; good drainage must be provided, and the pot filled firmly, without pressure. The bulbs are then to be placed on the top, and pressed down about an inch with the finger and thumb, and the soil pressed down gently so as to leave it level a little below the margin of the pot. The pots should then be placed in a cold pit, or they may be set on coal ashes, and covered with a moveable frame and lights; I prefer the latter until the approach of severe weather, when they are removed to a cool pit, kept moderately dry, and from which frost is entirely excluded.

After the bulbs have started, water may be applied, but in very moderate quantities through the winter. When, on the approach of spring, growth becomes active, they will require plenty of water; and at that time a portion may with advantage be placed close to the glass on the shelf of a greenhouse, which will accelerate their flowering. The remainder may be left in the pit until they throw up their flower-spikes, and may then be removed to the conservatory as occasion requires. Several other species and varieties of *Ixia* and *Sparaxis* are amenable to the same treatment, but I know of none more showy than *Ixia crocata*, nor one which increases more abundantly, coupled apparently with the great desideratum of a hardy constitution.

*Redleaf.*

JOHN COX.

### THE MULBERRY TREE.

THE Black-fruited Mulberry tree (*Morus nigra*) was introduced into this country from Italy about 300 years since; yet, notwithstanding the delicious flavour of the fruit, and its being produced abundantly upon the tree, we seldom see a Mulberry at any of our fruit exhibitions, and rarely find it dished and sent to table as a dessert fruit; I think I may add that I have never seen it marketed like other garden produce. Stranger still, the gardening periodicals do not enter it in their programme. Yet, after all, the Mulberry tree is a plant of no ordinary merit, and seems to have kept itself quite out of the hands of common people, for I do not recollect to have seen a fine fruit-bearing Mulberry tree out of the grounds of the aristocracy.

There is a Mulberry tree, full grown, and in good fruiting order, in the garden of Lord Stanley of Alderley, in Cheshire; and there is another, a fine old cripple, supported on crutches, on the lawn at Syon House, the residence of his Grace the Duke of Northumberland. This latter is a noted tree, and no doubt was one of the earliest planted in England. Lord Stanley's Mulberry tree at Alderley is of the greatest importance to planters, as it proves beyond cavil that this tree will grow and fruit freely in the North, in what may be best known as the Manchester district, for Alderley is only about ten miles from Manchester as the crow flies. There is a fine old Mulberry tree at Ixworth Priory, near Bury St. Edmund's, Suffolk, that bears fruit freely.

The Mulberry tree is not by any means an inviting specimen for the young botanist to practise upon, for its flowers are inconspicuous, and although the fruit be wholesome, the root of the tree is as nearly poisonous as possible, being hot, bitter, and purgative. It belongs to the Urtical alliance, which includes also the Hemp, the Hop, and the Fig,—all useful to man, but almost incomprehensible to the botanist,—for if we closely examine the Fig, for example, it appears to be a compound flower turned outside in, seeking to hide its florets from the light of day and from the prying gaze of man within a pouched pericarp full of seeds and sweet pulp, as if the flowers, such as they are, *sans* petals and almost *sans*

everything, had been drowned in this sac of sugar in which we find the seeds to be imbedded.

After all, the history of the Fig may help us to know where we may expect success with the Mulberry. There was a fine standard Fig tree, that fruited freely, in the garden at Hedsor Lodge, on the banks of the Thames, near Maidenhead. It certainly was well sheltered by high walls and trees, and the locality had been at one time a richly manured kitchen garden. The Hop gardens, or rather the extensive Hop fields, that so adorn Kent and Hampshire, are quite select portions of the best of our earth and the driest of our climate in England, and it may be necessary in the same way to select the situation suitable to the Mulberry. Even the Nettle, the type of the group, is not a plant to put up with any soil or situation, for it has dogged the footsteps of man, and thrives in the hedge-bank where all is well drained and sheltered, as well as in those spots where the ruined homestead gives by its mouldering decay the best materials and the shelter necessary for a crop.

In the Nursery Catalogues Mulberry plants are quoted cheap enough for any cottager to give them a trial; and when the subject has been ventilated through the pages of the FLORIST AND POMOLOGIST, we shall, I hope, get to know where the tree succeeds, and where it fails. If ever any fruit-bearing tree wanted orchard-house treatment, it is this; for it does not bear fruit when young, and it does not behave well under the pruning knife and the restraint of training, but likes its own way, and then forms a mushroom-shaped standard tree. It requires a sheltered situation, and such a pasture as would not disgrace the Vine will be quite in the way of the Mulberry. You never gather the fruit of the Mulberry as you would gather that of any other tree, but wait patiently till, by the aid of a gentle shake, it falls to the ground. In this way there is no question about ripeness, for the fruits ripen gradually, and yield a daily supply for a long period. This, however, suggests that a clean grass-plot should be maintained under the trees, for the fruit to fall upon.

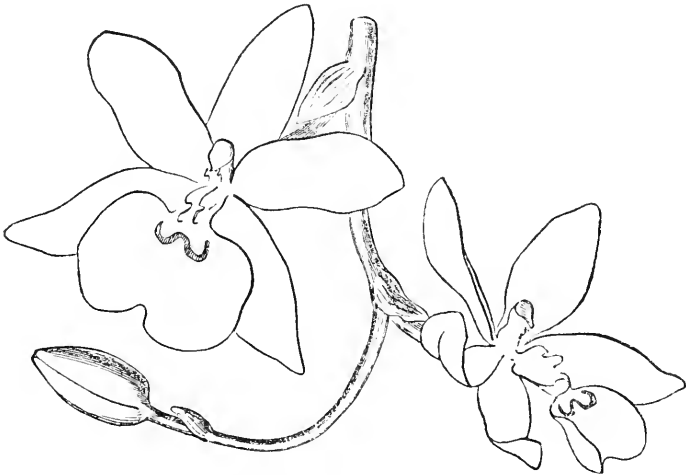
*Salford.*

ALEX. FORSYTH.

### ODONTOGLOSSUM KRAMERI.

THIS is one of the recent Costa Rican introductions, which flowered last season in several collections. In its growth and its pseudo-bulbs it is not unlike *Trichopilia suavis*; in truth, some plants sold bearing its name at Stevens's have turned out to be that species. When under cultivation, it is easily recognized by its roundish flat pseudo-bulbs, and oblong pale-green leaves, having a smooth, shining surface. The *Trichopilia*, as it increases in strength, is remarkable for its elliptic leaves, having a surface sensibly rough to the touch. Constitutionally, the present plant is tender, being as impatient of cold draughts as any one of the human species of physical debility. It must be wintered in an intermediate temperature, else the younger growths pine away and die. In

moderate heat, it develops its inflorescence very freely, the short flower-spikes proceeding from the young growths, as many as three or four from each pseudo-bulb, with about an equal complement of flowers to each spike. The flowers, being of thick substance, remain good for a period of three or four weeks. The sepals and petals are of a pale shade of violet-rose, the lip being of same ground, with a double crescent-shaped line of chocolate-purple near the prominent yellow crest. In some forms the flowers are much more attractive than in others, and collectors would do well not only to "take in" the plant, but to see to the variety. Orchid species and varieties have become so numerous through the importations received from a variety of sources, that the question now is not so much,—Have you got such and such a species? but,—What is



your variety? Collection is very desirable, but selection and collection must go hand in hand, in order to make the contents of the orchidophilist's greenhouses and stoves eventually valuable.

*Meadow Bank.*

J. ANDERSON.

### POLYMNIA GRANDIS.

**T**HIS truly is a noble plant. It is, in fact, one of the most beautiful and effective of all those which have been used for what is called sub-tropical gardening, and should be introduced to their collections by all who have a taste for this remarkable and effective style of gardening. The plant grows erect, with a stoutish grooved stem, which is furnished with luxuriant and most gracefully drooping foliage. These leaves grow in opposite pairs, on stalks of moderate length, and are broadly ovate in outline, boldly divided in a bipinnatifid manner, with their apices and those of their lobes sharp pointed.

Grown as a single specimen in a sheltered position, and in good, rich soil,

this *Polymnia* speedily develops itself into a noble object. Those who may have visited the Royal Horticultural Society's Garden at Chiswick during the past summer could not fail to have noticed a splendid specimen of it in the collection of summer foliage plants grown there, and magnificent groups of it are to be seen annually in Battersea Park.

If taken up in the autumn and kept through the winter in a stove, the plants will early in the following spring produce a plentiful supply of cuttings. These strike root freely if placed on a slight bottom heat, and, being afterwards grown and established under glass, may be planted out as vigorous young plants in the various positions they may be intended to occupy, when all danger from frost is over.

*Polymnia grandis* is second to no other plant for its dignified and yet refined aspect in the garden. As in most similar subjects, young plants, if well established before they are planted out, make by far the most handsome plants.

F. W. B.

### DOMESTIC AIDS TO GARDEN CULTURE.

IT must be borne in mind that the earth is our only outlet for impurity. We cannot get rid of it in any other way. Diffused through the air, or dissolved in water, it speedily returns to us again. Its place and form may be altered, but scarcely its quality; its poisonous power refuses to be thus destroyed. Now, the earth does not simply hold, it likewise purifies sewage, and changes the poisonous dead matter into health-sustaining, living substance. Not only is the earth the grand deodorizer that never fails, but it is the magical evolver of life out of death. It teems with life; it purifies, utilizes, and glorifies death. It converts dead sewage into wholesome food, or weaves it up into the warp and woof of lovely flowers.

The earth and plants together, become the scavengers and purifiers of the world. No other agents can unloose the firm grasp the earth holds over its dead, nor collect the elements of life from the charnel-house of death. Plants are the true resurrectionists. They open and rife Nature's wide grave of dead matter, and come forth clothed with the beauty and purity of a new life. To keep the world clean is one of their most important missions. They stand, as it were, midway between life and death, and mediate between the two. Animal life pollutes, vegetable life purifies, the world. Our poison becomes their bread; our waste is their gain. The whole kingdom of vegetables is arrayed on the side of health and cleanliness. Plants crowd around us on all sides, offering us their help as removers of impurities. They are hungry, and are not at all dainty; they can eat any amount of dirt; they slowly consume the largest lumps of solid impurities. They are also thirsty, and will lap up in the greediest manner the whole of our sewage; they try to reach it from afar, but as they are not endowed with locomotive powers, we



must simply place it within their reach, and it is astonishing how soon they will give a good account of it, and convert it into grass, beef, milk, bread, fruits, or flowers at our pleasure. Talk about the changes effected by man! what are they compared to the transformations brought about by the combined energies of plants, and the earth? Look at that sewage that you are now wasting in that dirty ditch. Stop it instantly; store it up, and apply it to your soil. In the spring it will expand into a snowdrop, or a crocus, or a primrose, or an auricula, or a daisy. During the summer it will grow into a lily, condense into a violet, cup into a rose, be changed into a bright-zoned pelargonium, run up into a hollyhock, creep into a fiery blaze of verbena, twist into a convolvulus, or melt in one's mouth as a luscious fruit. Or you may admire it in your pot plants as it droops into a fuchsia, flames out into an azalea, is painted on your fine-foliage plants, or curves gracefully into a fern leaf.

Now is the time to elect what your sewage is to become. Provided only you get it into a living plant, it is not at all particular as to the medium employed; and I can add, from a lengthened experience of its use, that every garden plant, with the exception of the heath, seems grateful for its assistance.

The storage and preservation of sewage must, however, precede its application. For this purpose, a perfectly water-tight vessel or tank must be provided. It should also be as nearly as possible air-tight, to prevent the escape of the gaseous constituents. In small cottages, an old oil barrel, sunk into the ground and carefully covered, would answer very well. But for general use, nothing answers so well as a carefully cemented brick and cement well or tank, of a capacity of from 200 to 1,000 gallons, according to the size of the establishment. The size of the tank would depend upon various considerations; whether, for instance, all dish-washings were sent to the tank, or utilized by pigs or other animals, and what proportion of excrementitious matter was conveyed to it, or otherwise disposed of.

Presuming that it receives the whole waste of the family, the tank ought to be large enough to contain a fortnight's or a month's sewage. If conveyed from the house by pipes, these must be carefully tapped; and when the closets are connected with the sewage, a cesspool must intervene between them and the sewage tank. The more solid refuse would thus be intercepted, and the sewage be preserved in a state of sufficient fluidity to pass readily through a pump. For every house beyond the merest cottage, a pump is the cleanest and, in the end, the cheapest contrivance for lifting sewage. And the best mode for cottages would be for several to combine and raise their sewage by pump-power. Or rather, the whole matter should devolve upon the landlords, who should provide storage for sewage, and means of distributing it, as they now make provision for a supply of pure water.

While the sewage is in tank, means should be adopted to render it as inoffensive as possible. One of the cheapest and best deodorizers is gypsum, or

sulphate of lime. This lays hold of the volatile ammonia (the most offensive ingredient), and changes it into a fixed salt. The gypsum effects a double decomposition; it changes the sulphate into a carbonate of lime, and the carbonate into a sulphate of ammonia. Now, this sulphate, although soluble in water, cannot be distributed in the air; consequently, the disagreeable smell is prevented, and the manure continues as valuable, or more so, than ever. The gypsum must be pounded fine and sprinkled among the sewage at the rate of from 6lb. to 10lb. to the ton. An excess of gypsum does no harm, and only adds to the value of the sewage. Bleaching powder, sulphuric acid, and many other substances are used for disinfecting sewage, and it matters little which is adopted, provided it is cheap, and simple in its application. But notwithstanding all that has been said and written upon disinfectants, I have not used any for years.

By using sewage early in the morning or late in the evening, it is astonishing how soon the bad odour vanishes. The roots and leaves together speedily devour it, and after an hour or two no smell of sewage is perceptible. Our two tanks are constantly in use all the year round, and are kept at the lowest ebb throughout the summer. Here sewage is in use every day in the year. Plants in pots growing rapidly or flowering profusely, such as pelargoniums, fuchsias, camellias, &c., receive it every day; others, such as azaleas and caladiums, every other day; roses in pots, vines, &c., are never watered with clean water. Out of doors, the whole flower garden is sewage, and I have not yet met with any bedding plan that objects to it; whereas most of them seem to enjoy it amazingly, and lick up with a relish. For vegetable culture it is my best help. Being rather short of solid, I fall back heavily on liquid manure, and nothing can excel sewage as a producer of sweet, succulent, tender vegetables. Small fruits, such as strawberries, gooseberries, currants, and raspberries, become large beneath its forcing influence. And apples on the paradise, pears on the quince, peaches, and apricots heavily laden on walls, have all been treated with sewage with decided benefit. For its distribution we use hand-carts, and a horse-cart, and common water-pots. Our tanks are furnished with pumps.

The question has often been asked,—What do you do with your sewage in winter? Pour it on to any vacant ground, or soak manure heaps, ashes, and other rubbish; in one word, it is used thus directly to enrich the ground, or to make or increase the value of our solid manure. During summer it is all at once applied to growing plants, and one of the chief merits of sewage is that it can be utilized at once. Plants can only absorb food in a fluid or gaseous state. Neither roots nor leaves can directly consume solids. All solids must be converted into either water or air, before they can enter into or become part of a living plant. Now, sewage is simply water, foul, it is true, but fouled with the quintessence of manure. It holds animal, vegetable, and mineral manures in suspension. The solids are solved or broken down by water, and thus prepared to become invaluable food for the plants.

Neither is the water that conveys the manure useless; very far from it. The extra water conveyed to plants by the use of sewage may be almost as valuable as a covering of manure to green crops. In fact, it is not at all certain that it does not become a manure. Plants seem to have the power of decomposing water, and absorbing into themselves the gases of which it is composed. Thus what was water to-day may be a sweet cauliflower or juicy green peas to-morrow. More than this, as has already been indicated, water is nature's great solvent, the grand mediator between solids and gases. Water is the wide drinking cistern of vegetable life. Empty it, and that life withers and dies. Keep it scantily supplied, and that life languishes and droops. Fill it liberally, and that life leaps up in gladness, and enrobes itself in its most verdant dress, in token of its gratitude.

Man necessarily uses much of the water of the world. He takes it clean, and it becomes foul upon his hands. Common sense might have taught him not to return this dirty water to the general supply of clean. By such a process the whole stock of water would be polluted. To this, then, it must not return. The air also refuses to take it away, unless at the terrible risk of ruining our health. It gives us due notice through our senses of the danger we incur by converting it into a common sewer for the removal of our pollutions. In this dilemma we turn from the water and the air, to the earth, with its covering of plants. These together are ready not only to take all the water we have fouled, but to return most of it to us again clean. Like finely-meshed sieves, they permit the pure water to pass through, and hold back within themselves every foreign substance that rendered it foul. More than this, they change these pollutions themselves, as we have already seen, into substances of the highest utility, sweetness, and beauty.

• In this way, the noxious, impure offscourings of our houses become a clear gain to our gardens, and plants are enabled to fulfil their high and holy mission of preserving the world clean for our use and enjoyment. This Domestic Aid to Garden Culture is within the reach of all, and its universal acceptance could only increase the health, comfort, and happiness of our homes.

*Hardwicke House.*

D. T. FISH.

## ROSES : MARÉCHAL NIEL ON GLOIRE DE DIJON.

THE time for budding Roses will shortly arrive, and many will be looking around them for suitable stocks upon which to bud, and thus to increase the number of some especial favourites. I need, therefore, make no excuse for offering a few remarks upon the merits of Gloire de Dijon as a stock upon which to bud that most lovely of all roses, Maréchal Niel.

Two years ago, as well as last year, I placed some buds of the Maréchal into about the middle and more matured part of some grossly grown shoots of Gloire de Dijon. The buds having taken, I reduced the young shoots upon the stock,

in each following spring, down to the buds which had formed prominently, as a preliminary to making a strong "start;" and the result, as to progress afterwards made, both in regard to the growth and the profusion of bloom, has surpassed anything I could have wished for. The buds grew so as literally to exceed the stock in size, and the base of each bud has so enlarged as to overlap the wood upon which it was inserted. The young shoots made thereon last season exceeded in some instances 10 ft. or 12 ft. in length.

One thing I have particularly noticed in connection with the Gloire de Dijon as a stock, which is, that if an *old* branch, or branchlet, be worked, and afterwards cut in to the bud as is customary, the bud of the Maréchal so placed seems to lose its capability of growing large, and produces wonderfully shortened growth in regard to its branches, while it yields blossoms much more profusely. I therefore advise all who have a large plant of the Gloire, to try its effects, either way, upon Maréchal Niel. I have not yet tried the former as a stock treated in the ordinary way, but hope to do so in the ensuing autumn, as I have a small supply of cuttings well rooted, in preparation, upon which I intend to experiment.

*Digswell.*

WILLIAM EARLEY.

### ONE VINE TO A HOUSE.

LOOKING back to a former page of the FLORIST, I chanced to observe the question, "Shall we Plant One Vine to a House?" Now, although much has been said for and against the extension system, it occurred to me that some good might result if those who had practised the system would give us, not only their opinion thereupon, but also some information as to the extent to which they had carried it out, and the advantages and disadvantages which had been noted during the whole time the plan had been under trial. This information might enable others to judge for themselves as to the propriety of adopting it. I should imagine that some, if not all, of those who have been discussing the subject from the commencement, have had ample experience to enable them to state the facts so clearly, that those of us who are only in a small way may not be led astray, or be induced without good grounds to turn out of the good old paths. From the commencement of the discussion I have turned my attention to the subject; and, with permission, I will state in my simple way what I have done.

The Vine upon which I have been working was planted some years ago, and is trained along the top or ridge of two span-roofed pits, or small houses, one used as a stove-house, the other as a greenhouse. It was planted without any preparation, except, perhaps, a bushel of soil to start it in, all the top soil being taken away, and nothing left but rock, fossils, and sand. Its extraordinary progress has frequently been laid before the public, and has no doubt been noted by many readers of the FLORIST. After the last account appeared, some evil befell it, so that the eyes did not break as I could wish, and I cut it back to the starting-point. It grew rapidly that year, and at pruning-time I left 30 ft.


This shoot was allowed to bear 50 bunches, and to grow 23 ft. more, which, together with the former growth, was only allowed to bear the same number (50) of bunches, and to form 5 ft. only of ripened wood, as it appeared to be somewhat weakened. This was last year, and that wood has only produced two bunches of grapes this season.

The wood for the present season has already attained the length of 11 ft. (with about 14 ft. of laterals, which are allowed to grow wild), and is growing at the rate of 2 in. per day. I have only left 34 bunches on the whole length for this year. Those at the warm end are black and nearly ripe; while those in the cool house are only about the size of small sweet peas, but looking well. The largest leaves on this year's leader measure but 1 foot each way; I have had them measure 18 in.

I ought to add that these pits were never intended for vines, only for plants, so that the vine has to submit to whatever treatment is necessary for the plants. The leader has now returned through the cool house or pit, and is about half-way through the warm one, the end of which I have no doubt it will reach this summer. Being quite satisfied about ripening a late and early crop in two houses from the same vine, I intend, should I be spared another year, to try what will be the effect of exciting both ends of the vine in the warm end, and leaving the middle, about 50 ft. of stem, without any excitement beyond what is necessary to preserve the greenhouse plants. Should the experiment result in anything useful, it may afford materials for a future communication.

JASPER STANDSTILL.

### SEASONABLE HINTS FOR AMATEURS.—JULY.

S a well-kept garden is a constant delight, I would strongly advise amateurs to pay particular attention to proper keeping at all seasons, and particularly now that everything is advancing rapidly to perfection. There cannot be a greater mistake than to attempt to do too much, and then doing it indifferently, leaving the place always in an untidy state. It is much better to do little, but do it well, and thus to keep the place always neat. One of the many recommendations of gardening is the facility with which every one can accommodate his gardening to his means, and excel so far as he goes.

Roses will now be objects of great attraction, and should have much attention paid to them. Those who provided stocks last winter, may now begin budding as soon as the bark rises freely from the wood. In general, bedded-out plants do not require much watering after this; but much attention should be paid to the regulating, training, and pegging-down of the shoots as they advance in growth. Hollyhocks, Dahlias, Salvias, Pentstemons, tall-growing perennials, and other plants should be staked, and neatly tied up, as they advance in growth. Pipings of Pinks should now be put in; and Carnations and Picotees may be

layered as soon as the shoots are long enough. Bulbous roots should be dried off, and stored away. This is a good time to clip Box edgings, as also Privet, Yew, and Thorn hedges.

Hard-wooded plants in-doors should, in fine weather, have all the air it is possible to give them, both night and day. They should have a good syringing occasionally of an evening. Young plants in pits and frames will need constant attention; those that need a larger pot should be at once shifted; the plants should be occasionally turned round, and the shoots should be stopped, trained, and tied out as they require it. Plants in the open air must also be well attended to. Cinerarias for autumn and winter flowering should now have their final shift. Chinese Primroses for winter flowering should also be shifted into the pots they are to flower in. Pelargoniums for autumn flowering must be well attended to, and any that require a shift should have it at once; as a rule, they should not be shifted much later than the beginning of the month, for they flower better when rather stinted at the root. With much pot room at this season they run too much into growth, and as a consequence do not yield a perfect head of bloom.

Notwithstanding the long continuance we have had of cold easterly winds, vegetables of all kinds are looking remarkably well and promising. If not done already, as recommended last month, good breadths of Broccoli, Brussels Sprouts, Savoy, and Borecole should be planted at once. Good breadths of the true Walcheren Cauliflower should be planted at the beginning, then about the middle, and again towards the end of the month; these will furnish a good and regular supply of heads through the autumn up to Christmas, if the weather be tolerably open and mild. The main crop of Celery should be planted about the middle of the month; should the weather be dry at the time, the plants must be well watered,—as also must all other newly-planted crops. Lettuce and Endive should be planted for succession, and a sowing should also be made of each. A good breadth of Turnips should be sown for autumn use. Cabbages for next spring should be sown about the middle of the month, not later. The hoe should be kept continually going between all growing crops. As soon as a crop is past, the ground should be cleared, and having some manure put on it, should be dug over, and again cropped.

The directions given last month about fruit-tree management should still be attended to. As Cherries and Strawberries ripen, they must be protected from birds. The young shoots of Raspberries should be well thinned out, leaving only sufficient of the strongest for bearing next year. Fresh plantations of Strawberries should be made with the first runners that can be had; with proper care and attention these will bear nice crops next year. If the weather be dry, good soakings of water occasionally, will greatly benefit the strawberry plantations which are now in bearing.

*Stourton.*

M. SAUL.

## PROTECTING YOUNG CONIFERÆ.

IN his important communication, at p. 130 of the *FLORIST* and *POMOLOGIST*, Mr. Barnes shows the great advantage of protecting choice young specimen trees of all kinds, even in the fine climate of Bicton. If due attention had been paid to the protection of the young trees of some of the newer and choicer varieties of Coniferous plants, when they were first introduced from Mexico, California, and other countries, many fine specimens would have survived, and have now graced the parks of our nobility and gentry. The opportunity has been lost by a great many planters. The late Earls of Grenville and of Shannon had, however, the foresight and knowledge to act differently, and have left to their successors a handsome legacy in the fine specimen trees now to be seen in their grounds. When I was lately at Dropmore, my friend, Mr. Frost, on showing me the large and fine specimens of coniferous trees growing there, pointed out the great care which the late Lord and Lady Grenville took when they first planted out the trees, both as regarded protection and soil. Many of the half-hardy Mexican Pines would have flourished if suitable sites, under the shelter of other trees in plantations, had been selected for them, and where the severe winters of the last thirty years would have not injured them very much.

In the spring of 1837, I found here a few young Deodar Cedars growing in pots in one of the greenhouses. Two of them were selected to be planted out in a Spruce plantation, and were sheltered with branches until of some size. They are now fine trees above 30 ft. in height, while all the others planted in open and exposed situations have succumbed to severe winters. The seeds from which these Deodars were raised, were sent from the Himalayas by Lord William Bentinck while Governor-General of India, and were amongst the first sent to England. Some other Pines of rather tender habit were planted in the same plantation, and are now fine trees, especially *Pinus excelsa* and *Abies Smithiana*.

We often see the *Wellingtonia gigantea* planted in windy and exposed situations, where the foliage gets browned, and where, consequently, fine specimens are out of the question. The severest of our frosts will not injure this tree, but it requires shelter from the wind, being a native of the valleys of the Sierra Nevada.

Perhaps one of the greatest evils in connection with the death or the slow growth of the newer Coniferæ, was the keeping them too long in pots before they were planted out. The roots got so matted in the pots, that unless care was taken to spread them out, they never got sufficient hold of the ground to prevent the wind from blowing the trees over, while sometimes strangulation occurred from the roots being confined so closely together.

*Welbeck.*

WILLIAM TILLERY.

## THE FRUIT CROPS IN YORKSHIRE.

**F**RUIT crops in Yorkshire are, this season, much better than they were expected to be. All kinds of fruit were last year most abundant, and notwithstanding the heat and drought, much of the fruit was fine. In general, old trees of Apples, Pears, Plums, and Cherries in orchards do not bear good crops of fruit two years consecutively: it is one year an abundance, and the following year a deficiency. These fruits were last year most abundant, and consequently a deficient crop was looked for this year; but it is not so. No doubt this may be attributed to the hot and dry weather being favourable to the maturation of the wood, and the formation of flower-buds. On light soils fruit trees suffered much last summer, and in such places some crops are consequently light: but on strong land, where the trees stood the drought uninjured, the crops are better than could have been expected, after the very heavy produce of last year.

Apricots are an irregular crop: in some places good, in others moderate. Here even on the same wall the crop is irregular; on some trees the fruit is thin, others have a fair sprinkling, and on a few there were three times too many fruit for a crop. I think Apricots will not be much below an average crop.

Peaches and Nectarines are a good crop on strong soils where the trees stood the drought, but on light soils they are deficient. Here the crop is very good. The trees were protected at night whilst in flower. In some places, where there was no protection given, the crop is equally good. There was a deal of bloom even on trees that suffered last year from the drought, but being weak and imperfect on these, it fell off without setting.

Pears are a very good crop, both on walls and in the open ground. Here the crop is very fine; extraordinarily good on some of the standards.

Plums showed an abundance of blossom, but I think the crop will be thin,—last year it was a very heavy one. The weather, whilst the trees were in flower this season, was much more favourable for setting than it was last year, so that the light crop can be accounted for only through the flowers being weak and imperfect. Here there are a considerable number of trees, and there will be a good sprinkling of fruit; but the crop altogether is light.

Apples are a much better crop everywhere than was expected, as the crop last year was very heavy. On old trees that bore heavily last year there is very little fruit this, but on all vigorous trees that were not then overcropped there is now a fair crop. Here there is a fair crop of fruit on all the young trees, while a few of the old ones that were heavily laden last year have little or no fruit. Should the summer be fine, I have no doubt the fruit will be good.

Cherries are a most abundant crop everywhere.

Gooseberries are in most places a thin crop. The sorts that came early into flower suffered a good deal from the cold boisterous weather that prevailed throughout March, but the later sorts are better furnished. Here there is a fair



crop of the Whitesmith and some other sorts, but the Ashton Reds and others that came out early are thin. Currants are very abundant, and so are Raspberries, though the canes suffered very much in dry light soils last summer.

Strawberries will be a much better crop than was expected, for the plants in light soils suffered very much last summer. Here some sorts look remarkably fine, and are full of good large bold flowers.

From the foregoing particulars, it will be seen that Apricots, Plums, Gooseberries, and, in light soils, Strawberries, will be below an average crop; and that Peaches, Nectarines, Pears, Cherries, Apples—except on old trees, Currants, Raspberries, and Strawberries on strong land, will be fair average crops.

Stourton.

M. SAUL.

### PRESERVING APPLES, PEARS, ETC.

**N**EXT in importance to growing our Hardy Fruits, may be ranked the preservation of them for winter use, whether by amateurs or professional gardeners. In the month of February last, a few prizes offered at one of the Tuesday meetings at South Kensington brought together a considerable quantity of Apples and Pears from various exhibitors; and this fruit was in so excellent a state of preservation, that the mode of keeping in the different cases was inquired into. The following is a *précis*, published by the Royal Horticultural Society, of the communications received.

1. As the flavour of fruit is so easily affected by heterogeneous odours, it is highly desirable that the Apple and Pear-rooms should be distinct.

2. The walls and the floor should be annually washed with a solution of quicklime, to which common salt is sometimes added. [Salt is objectionable.]

3. The room should be perfectly dry, kept at as uniform a temperature as practicable, and be well ventilated; but there should not be a thorough draft.

4. The utmost care should be taken in gathering the fruit, which should be handled as little as possible.

5. For present use the fruit should be well ripened; but if for long keeping, it is better, especially with Pears, that it should not have arrived at complete maturity. This point, however, requires considerable judgment.

6. No imperfect fruit should be stored with that which is sound, and every more or less decayed specimen should be immediately removed.

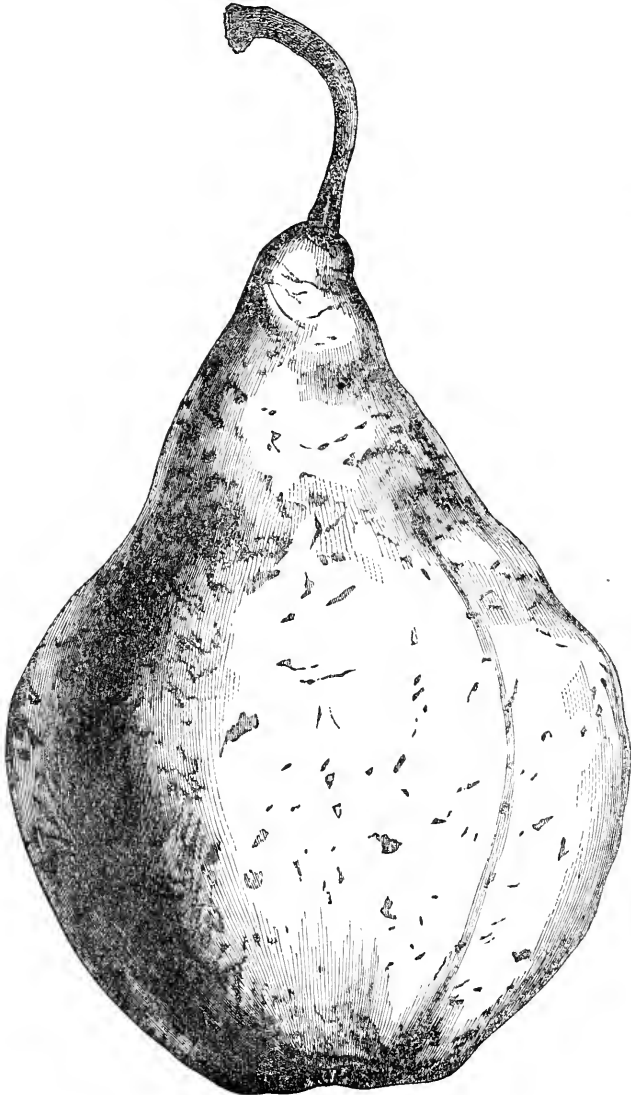
7. If placed on shelves, the fruit should not lie more than two deep, and no straw should be used.

8. Where especially clear and beautiful specimens are wanted, they may be packed carefully in *dry* bran, or in layers of *perfectly dry* cotton-wool, either in closed boxes, or in large garden pots. Scentless saw-dust will answer the same purpose, but pine saw-dust is apt to communicate an unpleasant taste.

9. With care early apples may be kept till Christmas, while many kinds may be preserved in perfection to a second year.

## BEURRÉ DU CERCLE PEAR.


**T**HIS excellent new Pear fruited for the first time last year in the garden of the Royal Horticultural Society at Chiswick. It was introduced from the "Société Impériale et Centrale d'Horticulture" of France, and promises to become a variety of standard reputation in this country. The fruit is large, obovate, tapering irregularly towards the stalk; surface irregular, bulging out in



places. Skin smooth, of a beautiful pea-green colour, with a slight patch of russet round the stalk. Eye small, open, set in a very shallow angular basin, almost level with the surface. Stalk long and slender, inserted a little on one side without depression. Flesh greenish white, delicate, buttery, and melting, very solid, with scarcely any core. Flavour rich and pleasant.

This is a Pear which we anticipate will take a high rank. In appearance it is somewhat like a Glou Morceau, but is distinguished by the very long slender stalk and the deep green skin. The flesh resembles that of the Marie Louise and Glou Morceau. Ripe in October. Grafts of this variety were received by the Society in 1860 from the Société Impériale et Centrale d'Horticulture du Département de la Seine Inférieure. H.

### FOSTER'S BOILER.

E borrow from the *Gardeners' Chronicle* the following illustrations of a new Hothouse Boiler, which has been introduced with very satisfactory results, by Mr. Pearson, of Chilwell. It will be seen that this is a modification of the good old saddle-boiler, with certain additions, which appear calculated to make it more effective. Its construction will be understood from the subjoined figures and description:—

When a young man, I was always anxious to see the process of manufacture as carried on in large establishments. In looking over the great Butterley Ironworks, near Derby, I remember having been struck with the first reverberatory furnace I came to. Though I knew chemists considered the flame the hottest part of a fire, and was not ignorant of the effects of the blowpipe, I was still surprised to see the flame alone employed in melting iron. This was a lesson I never forgot. Having 21 houses, some of them 100 feet long, and 24 to 30 feet wide, I have had a good deal of experience in heating; and have nine different kinds of boilers in use, but I have never been satisfied with any of them, for it has always appeared as if the makers had ignored the power of flame by allowing it to strike against a brick wall.

Of all the boilers invented, I think the tubular ones are the worst and the most unphilosophical. No doubt the tubes in a locomotive boiler suggested the idea; but because fire carried through tubes surrounded by water is found to heat water quickly, it does not at all follow that water contained in tubes which enclose a fire should be rapidly made hot. A boiler on this plan can be made of any size, and will hold any amount of fuel, and this I conceive is its only advantage. A tubular boiler must be surrounded by brickwork, and were it fed with small coal and slack, would be choked; it is, therefore, necessary in practice to use large coke, a most expensive fuel; it requires a very deep hole to stand in; the flame must pass by and between but few of the tubes into the flue, so that the heat will be in a great degree wasted; then each tube being caulked into a ring of metal at each end, the large number of joints acted upon by the fire is sure to give rise to leakage, or, if not, the unequal expansion of the metal is likely to crack it. To put hard water into a hot-water apparatus at all is very bad policy, but it must quickly destroy a tubular boiler. The water-way is so small that any incrustation must soon fill it up, and it will in that case soon burn or crack.

A serious objection, common to nearly all boilers, is that they are necessarily surrounded by brickwork, which must become red hot, and the return pipes must pass through this before entering the boiler, so that unless special precautions are taken to prevent it, return currents will be set up, and the circulation impeded.

These objections do not apply to some of the improved wrought-iron boilers, but wrought-iron boilers rust so rapidly, particularly when not at work, that this circumstance alone is a very grave objection to their use.

Impressed with these ideas, I have for years been trying to induce Mr. Foster, who builds my houses, to make me a boiler, and at last I have got into work one which quite equals my expectations; in fact, I have seen nothing like it for quickly heating a large body of water. The boiler is 3 ft. 9 in. in length, and as the fire never comes in contact with anything but

iron backed by water, and traverses it three times from end to end, it must be most powerful. Fig. 1 is a front view; the lower door indicating the ashpit, the middle one the furnace, and the upper being provided for facilitating the clearing-out of the soot. Fig. 2 shows the side, and also the back, against which the flame strikes in the first instance, returning through the two holes seen in fig. 1, and then passing under the arched dome to the back, and so into the

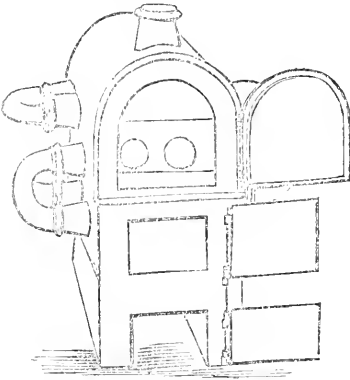


FIG. 1.

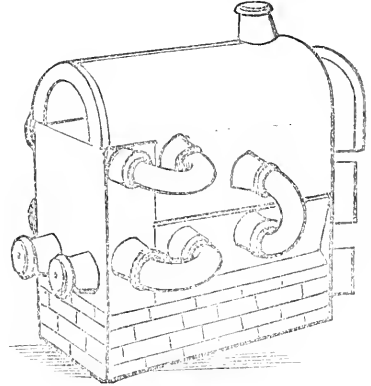


FIG. 2.

flue or chimney. This figure also shows the flow pipe at the top, and two returns at the back, with three of the six bent connections uniting the different sections. Fig. 3 shows the four sections of which the boiler is composed.

Supposing such a boiler to be badly used—slated up with lime water, for instance, and in time injured,—being made in four sections, the sides next the fire bars, which would be the parts sure to suffer, could be replaced at a small cost. No bricks are required above the

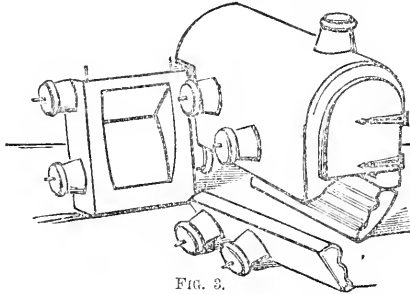


FIG. 3.

fire bars; and even if it be convenient to surround it with bricks, such bricks would only become warm, not hot. Every joint, being outside the boiler, is safe from the action of fire. The only objection at present is, that having only 800 ft. of 4-in. pipe to work, it is too powerful. It is fed with slack and cobbles mixed, costing about 6s. a ton, and yet the ashpit door has almost always to be closed, and generally a heap of ashes is put against it to stop the draught. I believe if all my boilers were on the same plan, I should save half my coal bill.

### MONTHLY CHRONICLE.

JUNE has been crowded with exhibitions. The Great Summer Show of the Royal Horticultural Society, which occurred early in the month, was one of the finest assemblages of plants which has been seen for many years, and was well attended. At this Show the Coleuses were first brought out

in competition groups, and they promise to add a most interesting new feature to our shows, the plants being very manageable and very striking in the effect of their colouring. The addition of Mr. Anthony Waterer's Grand Show of American plants to the ordinary attractions of a great flower show, made this a red-letter day at South Kensington, for this glorious exhibition, made up of the gems of perhaps the finest collection of Rhododendrons in existence, has been more attractive this year than ever. The Second Grand Show at the Crystal Palace, and the Rose Show at the same place, have been held during the month, the latter not at all comparing as to quantity with the shows of previous years. Messrs. John Waterer and Son's Show of Rhododendrons, which has been held in the Regent's Park, has been a very fine one; and before these remarks reach our readers, the Royal Botanic Society will have commenced in the same locality its Second Great Show. In Scotland, both Edinburgh and Glasgow have had their gatherings; and in the North of England extensive and high-class exhibitions have been held at Leeds and at York, in connection with which latter, a testimonial, consisting of a handsome gold watch and chain, has been presented to Mr. Wilson, the indefatigable secretary, by the exhibitors and judges—a mark of appreciation which speaks well for the management of the Show.

— DR. VOELCKER exhibited, at a recent meeting of the Royal Horticultural Society's Scientific Committee, a sample of Manure for Vines, said to induce early maturity, and the production of fine fruit. On examination he had found that the Manure in question was composed of the boiled bones used in the manufacture of glue. These were afterwards ground to powder, and sold at a price far exceeding their real value. Bones that had been boiled were considered preferable as a Vine Manure, inasmuch as they contained a relatively larger amount of phosphate of lime, and a smaller quantity of nitrogenous matter, the which latter tended to favour the production of leaves at the expense of fruit. In the course of conversation on this matter it was stated that in the south of France the custom was to apply but little nitrogenous manure to the Vines, as the flavour of the Grape is supposed to be injuriously affected by such application. In the Rhine districts, on the other hand, the growers avail themselves of every particle of manure that they can procure—a difference of treatment which may probably be explained by the difference in soil and climate of the two localities.

— WE may state, on M. Van Houtte's authority, that the new *Iresine Lindenii* proves to be an exceedingly effective ornamental plant for the summer flower garden. The excessive heat of last summer in no way diminished the beauty and luxuriance of examples which were planted in the open ground, fully exposed to the sun; and they were also found to be unaffected by 5° of frost (27° Fabr.). The difficulty of preserving *Iresine Herbstii* during the winter is but too well known. This disadvantage is not shared by *I. Lindenii*; all that it requires in the winter months, says M. Van Houtte, is a cold greenhouse, where its robust constitution enables it to pass the season successfully with but little attention.

— THE Scolime d'Espagne is the name of a vegetable cultivated largely in Spain, where it is esteemed as a great luxury, and regarded as both a wholesome and a profitable crop. The root is white, resembling an Altringham carrot, and when cooked and served with melted butter, it eats like well-blanchéd seakale. It is to be grown like carrots or parsnips, except that it must not be sown before the middle of June, or else it starts into flower, and the roots become useless. It is quite hardy, takes only four months to grow to maturity, and may be introduced as a second crop. The roots keep good for use from October till March.

— NEVER earth up Cardoons, or many of them will be lost by rotting, or eaten by worms. The following mode of blanching them is all that can be required:—On some dry day towards the end of October dig in any corner a pit 5 feet deep, about the same in width, and of sufficient length. Cut off the green tops of the Cardoons, dig up the roots, and plant them in the pit as close as possible, so that they do not touch. Close in the pit with planks to throw off rain, and cover with straw or litter to keep out light. After the first fortnight examine every week, and take out all that are sufficiently blanchéd. If not wanted for use, put them away in any dry dark room or shed, where they will keep good for two months.

— **THE** Maple, known as *Acer Wagneri laciniatum*, is shown by a figure given recently in the *Revue Horticole*, and representing a forked branch, one of the divisions of which bears leaves of *A. eriocarpum*, the other the lacinate leaves of the above-named variety, to have originated as a sport from *A. eriocarpum*.

— **TO** insure the success of Orange trees grown in boxes or in pots, observes Mr. Robinson in his *Gleanings*, they must not in any cases be allowed to grow in the house. All their growth must be made out of doors; and it is a matter of fact, that if the orangery is to the south, no matter what trouble may be taken to prevent their starting, the plants will be beginning to shoot a long time before the weather is mild enough to permit of their being placed in the garden. A good orangery should have a northern exposure, with plenty of windows to admit the light, and every convenience to give full air when it is not frosty. A winter minimum of 36° to 40° will suffice.

— **THE** great secret of growing good Lettuce is good cultivation. Dig a plot of ground a foot or eighteen inches deep; lay upon its surface good rotten horse manure, six inches deep; cover it over with three inches of good soil, tread it firmly when dry; plant good plants at the proper distance; deluge with water when necessary, and it is impossible to fail to grow good Lettuce.

— **THE** *Eucharis amazonica* bids fair to rival the Lily of the Valley and the white Camellia for bouquet-making, and is very extensively used in that way. Mr. Howard's plants, the finest which have ever been seen, were obtained by having recourse to heavy waterings occasionally with mild liquid manure, a genial stove temperature, and repeated syringings when in a state of growth. When, being in a growing state, they wanted water, they were not simply watered once, but the first was considered merely a preliminary dose, and two others were given. The fact is, that too frequently unthrifty plants are simply dying of starvation from getting insufficient waterings.

— **COMPOSTS** are important elements in plant-growing. A good mixture for soft-wooded plants may be thus prepared:—Procure two cartloads of rich loam with the turf, and as free from oxide of iron as possible. Then get from the nearest stable, where the horses are highly fed, a large cartload of dung, selecting that which has been thoroughly soaked with urine. Place each in a separate heap, three or four yards apart, shaking the manure out, and mixing it together, the same as in the preparation for a hot-bed, only it must not be allowed to heat violently, to prevent which it will be necessary to shake it out every three or four days; in a fortnight it will be fit for use. Then mark out the ground, say, six feet long and four wide, and upon this place a layer of the hot dung nine inches deep, then a layer of loam, and so proceed, reserving a good layer of loam for the top; beat the manure firm, but leave the loam loose, and square up the work properly at the last. Then place over the heap loose litter to the thickness of twelve or eighteen inches, and cover the whole with mats closely pegged down; the object being to excite fermentation, and to prevent the escape of ammonia. The heap may remain in this state for a fortnight or three weeks, or until the heat subsides; then turn it over, taking care to throw the sides into the middle, and to mix the loam and dung thoroughly throughout. The covering must be again put on, and remain on until fermentation has ceased.

### Obituary.

— **THE** Rev. JOHN SMITH, D.D., died on the 30th ult., at the Manse, Ecclesmachan. Dr. Smith, who was a valued occasional contributor to our pages, was the son of the late Mr. Smith, of Hopetoun, and in early life acquired such an intimate knowledge of practical gardening as enabled him, when dealing with horticultural matters as a relaxation from his ecclesiastical duties, to wield his pen with a degree of force and precision which has seldom been equalled, and perhaps never excelled. Of late years his ecclesiastical duties had so far multiplied as to leave him comparatively little leisure to enter the arena of horticultural discussion, though he retained to the last his love for gardening, and an abiding interest in all that was passing in the world of horticulture.








## BEGONIA SEDENI.


WITH AN ILLUSTRATION.

E learn from the Messrs. Veitch and Sons, of Chelsea, who are the fortunate raisers of the subject of our plate, and to whom we are indebted for the opportunity of figuring it, that it was obtained by crossing *B. boliviensis* with an unnamed species, not yet offered for sale. It was raised in 1868, and was exhibited on June 2 of the present year, at South Kensington, where it obtained a First-Class Medal and Certificate; and on June 30, at the Regent's Park, where the highest honours were also awarded to it.

We believe that this new *Begonia* will prove one of the most ornamental and valuable of our decorative plants, for not only are its blossoms large, abundant, and highly coloured, but its habit is in every way irreproachable; and as it thrives well—so we are informed on the best authority—in a temperature of  $55^{\circ}$  to  $60^{\circ}$ , which suits *B. boliviensis*, there can be no difficulty on the score of cultivation. Our figure will show that we do not exaggerate its beauty.

*Begonia Sedeni* is a soft-wooded plant, with erect hairy purplish-red stems. The leaves are obliquely ovate-lanceolate, tapered to a long point, duplicate serrate, of a dull green, with pale-coloured veins, and red hairs which show as a reddish fringe at the edge. The cymes are three-flowered, axillary, on reddish peduncles four inches long, bearing a pair of bluntly-ovate bracts subtending the three pedicels, which are about an inch and a half long. The central or larger flower is male, and has two ovate sepaline divisions an inch long, and two oblong ovate petaline ones an inch and a half long, while in the centre is a tuft of yellow stamens. The two lateral flowers are female, somewhat smaller, with five oblong segments, and three contorted yellow stigmas, surmounting a three-winged ovary, which has one of the wings prolonged. It is most floriferous, the young plants, when only six inches high, developing blossoms freely. M.

## MONSTERA DELICIOSA.

OME readers may remember this under the old name of *Philodendron pertusum*. We have grown the plant for its fruit for a great many years, and, as was remarked at the Fruit Committee on the 6th ult., when a ripe fruit was exhibited, no plant could be more easy to cultivate. We have been in the habit of planting a lot out every summer in a sheltered situation, with many other choice plants, and few prove to be more interesting than this, more particularly if a lot of fermenting leaves and short grass be trenched in before planting. This gives the plant more vigour, and tends to assist in developing its magnificent and singular-looking leaves. These, like those of many endogens, spring as it were from the bottom of the previous leaf-stalk, which seems to push out the top of the next leaf, the leaf itself being bent down against the side of the stalk, or something like a flag rolled up. The leaf, under favourable circum-

stances, lifts itself gradually, and develops into a blade 3 ft. 6 in. by 2 ft. 6 in. Curious as is its manner of unfolding, it is rendered even still more curious by the small threads that connect the outer segments of the leaf, giving it an entire and perfect outline. These are soon broken by wind or movement.

We have generally grown the *Monstera* planted out in small bricked-up corners of cool houses, where we could, by an alteration of the plants, make the most use of the sun heat in summer. It will succeed perfectly, I have no doubt, in a common greenhouse where vines are grown, and where in the summer months the application of a little extra heat would ripen the fruit sooner. With us, it takes twelve months from the time of blooming. Of course, there is mostly a succession of fruit. The report of the meeting alluded to states that this fruit is very delicious. In my opinion, it is one of the most delicious fruits grown, and if allowed to grow freely, instead of being hampered in a pot, the fruit loses the little asperities or spiculæ that cause a peculiar tickling sensation in the throat in some cases. I considered, at one time, that there were two varieties, but I am now convinced that the difference is simply due to the conditions of growth. Some of our first fruits this year were from 14 in. to 18 in. long, with a good depth of the eatable part. One ripe to-day is scenting the air some distance round the house—more so than a house of Pine Apples would do.

The habit of the plant is creeping, or, if it were consistent, we might say stalking, as the rootlets come from the stem, at a foot or 18 in. from the ground, and form fine strong spongelets as thick as one's finger. These on reaching the soil either penetrate it or go along to the wall, where they spread out into tufts of numerous rootlets. Any sort of soil appears to suit its growth. We have always used good loam, and a bottom of brick rubbish.

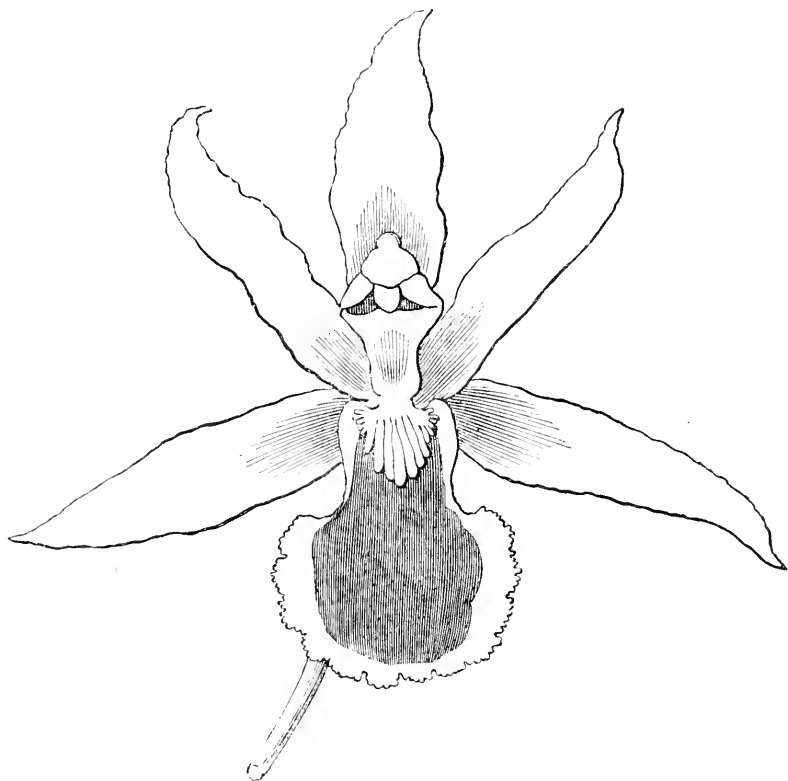
*Cliveden.*

J. F.

### ZYGOPETALUM AROMATICUM.

**T**HIS is an old acquaintance under a new name. Looking to its mode of growth, it might, indeed, be properly referred to the *Warscewiczellas*; but the difficulty of separating the *Huntleyas* and *Warscewiczellas* from *Zygopetalum* proper, has evidently induced Professor Reichenbach to adhere to the older name. It is certainly a very attractive plant, and in good hands it yields quantities of flowers. Accustomed as most people have been to grow it in an intermediate temperature, they find it apt to go off, the leaves becoming spotted, and then dying away altogether. A cool temperature seems better suited for its wants. Mr. Pilcher, who is growing his batches of cool orchids to wonderful perfection, manages these things in a cool shaded house better than any one I have yet seen. The whole group is without blemish of any kind, and as green as a Scotch leek. So grown, it is quite ornamental, the ligulate leaves coming from the concealed crowns quite numerous, and the flowers proportionately so. A too free production of flowers, however, induces spotting on the leaves. The

great desideratum evidently is to grow the plants cool in summer, to get the leaves in a good state of consolidation during autumn, and to keep them on the dry order during the resting season. Any moderate temperature with a minimum above  $40^{\circ}$  will do ; less than that is likely to be attended with unpropitious results.



The fragrant flowers come isolated from the growing shoots, and have pale apple-green sepals and petals, and a deep-shaded violet lip, with a broad margin of white. The crest, like that in *Zygopetalum maxillare*, is singularly attractive. The plant comes from Chiriqui. J. A.

### CALVILLE BLANCHE APPLE.

It is a singularly ridiculous evidence of the times, that no man dare to give expression to the opinions he entertains on any subject, without some opponent setting himself up as a *doctinaire*, and finding fault with the opinions expressed. Mr. Tillery, whom I have not the pleasure of knowing, seems to be no exception from the general rule, and must needs assail me

for having an opinion respecting his new acquaintance and evidently pet apple. Not only so, but pluming himself on that little knowledge which short acquaintance necessarily involves, he elects himself as champion of "the Calville Blane." What I said of the White Calville or Calville Blanche Apple (p. 77) is as true to-day as it was the day I wrote it; and I consider it is the duty of every social economist and lover of his kind to placard the truth, whenever and wherever opportunities present themselves. If Mr. Tillery wishes for better evidence than "ocular demonstration" and "practical experience" affords, I question very much whether he will find it in discussing the merits of fruits which soil, situation, temperature, and the elements make so different in different situations. However, *chacun à son goût*.

Jersey.

C. B. S.

## EVILS OF ACCLIMATIZATION.

### SPARROWS AND RABBITS IN AUSTRALIA.

IN some remarks of mine in a former volume of the *FLORIST* (2nd series, iv., 122), I wrote respecting Sparrows destroying young peas and devouring gooseberry buds, as follows:—"Our brethren at the Antipodes are stated to have been at great expense and trouble in introducing the sparrow into that quarter of the globe, but I am afraid they will yet be sorry for trying the experiment. Mr. Sparrow will be sure to colonize faster than the inhabitants; and, like the brown rat, he will require all the ingenuity of man to keep him within bounds." At the time I wrote this, I did not expect to see the fact so soon verified as it is, by the following extract from the communication of a Melbourne correspondent:—"The sparrow is another importation against which we ought to take up arms, so abundant are these birds now in every direction; but for the common belief that he earns his living by keeping down the caterpillars and noxious insects in the fields and gardens, it must certainly be admitted by the sparrow's best friends—of whom I profess myself one—that in his moral qualities of impudence and shrewdness, he does not degenerate in this climate. He is equally at home among the fowls in your farmyard, astonishing some grave old hen by withdrawing a choice morsel from under her very beak, or in making a raid on your seeds, or on your vineyard and cherry trees just as the fruit is ripening, of which he is always himself well informed by experiment." It must be admitted that if the sparrow is so fond of fruit in Australia, he must have acquired a new taste there; for with all his faults with us, he has never been considered a fruit-eater by gardeners.

The other importation, that of wild Rabbits, into Australia, threatens to be a great curse to the settlers, for they are breeding so fast that they will soon starve the sheep out of their runs. The Melbourne correspondent says of them, "that they are spreading more or less all over the country, and I have seen them scampering about even in the gardens near Melbourne. As food they greatly affect some of

the most beautiful of our flowers, nothing, however, coming amiss to them, and they are therefore becoming the terror of horticulturists. Now that the plague is on us in full force, we can, of course, all very easily account for what no one foresaw." In such an immense and thinly-populated country as Australia, the catching of these animals to keep them within bounds would be an absolute impossibility, and even if practicable the expense would be enormous.

*Welbeck.*

WILLIAM TILLERY.

### ROSES AND ROSE-SHOWING.

FROM many parts of England letters have reached me, conveying the unsatisfactory intelligence that the first bloom of Roses has been indifferent. Aphis and mildew, with buds sealed, dingy in colour, and falling unexpanded, were doubtless very prevalent features in the summer bloom of 1869. But to all who may have experienced these disappointing results I would say, take courage. Wash your plants to destroy the insects; dust with sulphur to check the spread of mildew; water if dry; cut off all remnants of passed and passing flowers, and bide your time. I have often seen an indifferent summer bloom followed by a magnificent display in autumn; and if the present and next month prove favourable, there is good reason to expect such a result this year.

But, while the summer bloom of Roses has been generally indifferent, it has not been universally so. In my nurseries, and in other nurseries and well-known gardens in Hertfordshire, the flowers on the old plants never were finer or more abundant. The mass of my young plants are hardly yet in full bloom, as it is my practice to remove the first blossoms, by which means larger heads, a more regular growth, and more thoroughly ripened wood—conditions essential to the future well-being of the plants—are obtained. This stopping of the young shoots produces an intermediate flowering in July and August, which has been already good, and still promises well.

It may be some consolation to those who have suffered disappointment this year to know that it is a matter of season rather than of cultivation, and therefore more or less beyond their control. The cold nights and sunless days are at the bottom of the mischief. I have recently been through the principal nurseries in France, and find the same result, only in an exaggerated degree, there as here. Never were the Roses there so few and indifferent. The grand Rose Show which was to have taken place at Brie-Comte-Robert in July has been postponed, and the growers intend showing their flowers at Tournay in September.

Finding but little work for the eyes when in France, I made the best of the circumstances by using my tongue and ears in discussing various knotty points in Rose culture with the most intelligent growers.

In England there are two classes of rose-growers,—those who grow for plants, and those who grow for flowers. The two points are not usually combined in

the same individual with the highest degree of success. As the results sought are different, so are the means used in their attainment. Those who grow for show let the dormant buds of the last year's budded plants flower from the first growth, and by means of high manuring, copious watering, and disbudding, induce a fat growth and fat flowers, which, by the use of hand-glasses, flower-pots, mats, canvass, and other warming, bleaching, shading, or disbudding processes, as the case may require, obtain flowers of a size and complexion which are not often met with except on the exhibition tables. True, the garden during this process is in a state of infinite disorder, but what does that matter to your exhibitor? He grows for a purpose, and attains it. The grower for plants, on the contrary, stops the shoots of the last year's budded plants when only a few inches long, whereby he destroys the first bloom; but he gets a later bloom, and, what he chiefly aims at, instead of a few stout and often ill-ripened shoots, many well-placed shoots of moderate growth, and well ripened.

In France, although some growers show and some do not, there is not this broad difference in their practice of cultivation. All grow for plants. I discussed at length with several of them the different ideas of showing prevalent in England and in France, and agreed with them that the extra size of the flowers obtained in England by the disbudding process was dearly bought by the absence of flower-buds. I discussed this with M. Margottin, especially at the flower-show at Sceaux, where the roses were in some cases very good. There was one fully expanded flower of each sort exhibited, surrounded with leaves, and two, three, or four beautiful buds in various stages of development. There was far more beauty, to my eye, in these Roses, than in the larger flowers seen afterwards at the Crystal Palace and Kensington, leafless and budless, bald and unnatural, though very tidily set up like so many rows of balls or of teacups in a toy or china shop. But *chacun à son goût*.

The effect of a rose in the garden, the *tout ensemble*, constitution, constancy, durability, leaves and buds as well as flowers, enter more into the calculation of the French than the English grower. Here, too, I venture to think that the Frenchman is right. But here, again, *chacun à son goût*.

Of the new Roses of 1867-8, I have seen the following good both at home and abroad:—

Alice Dureau, Aristide Dupuis, Baron Haussmann, Boule de Neige, Clotilde Rolland, Comte Raimbaud, Curé de Charentay, Duchesse d'Aoste, Elie Morel, François Fontaine, Impératrice Charlotte (of doubtful constitution), La Franco (a grand garden rose), Madame Barriot, Madame Cbirard, Madame la Baronne de Rothschild (very beautiful), Madame Marie Girodde, Madame Noman (a good flower, but delicate), Pitord, President Willermoz, Prince Humbert, Reine du Midi (much like La Reine), Souvenir de Caillat, Souvenir de François Ponsard, Sophie de la Villeboisnot, and Vicomtesse de Vezins—hybrid perpetuals; Souvenir de Pierre Vibert—perpetual moss; Clotilde (much like Bongère), and Jean Pernet—tea-scented. The colours of these varieties will be seen on reference to any of the Rose-growers' catalogues.

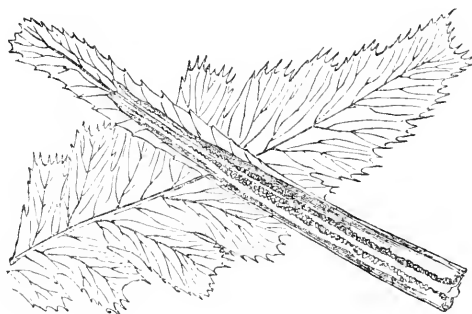
Of the new Roses of 1868-9, I am waiting for further evidence, and shall make them the subject of a separate paper by and by.

*Paul's Nurseries, Waltham Cross, London, N.*

WILLIAM PAUL.

## LOMARIA CILIATA.

ONE of the smallest of arborescent greenhouse ferns, and one that must recommend itself to cultivators by its distinctness and beauty. It has been introduced into our gardens within the last two or three years by Messrs. Veitch and Sons, from New Caledonia, and in some respects bears a certain resemblance to *Lomaria gibba*, also a New Caledonian plant, and one of the most elegant evergreen ferns of modern introduction.



*Lomaria ciliata* forms a slender arborescent caudex, of from six inches to a foot in height, and an inch and a half in diameter. The fronds have a dark ebeneous stipes, and an ovate or oblong-ovate lamina, which is pinnate below, pinnatifid and caudate above; the pinnae have shallow lobes, which are truncate and emarginate, as also are the pinnae themselves, and in addition to this the whole margin is fringed by long setiform teeth. The truncate or more or less emarginate pinnae and lobes, and the ciliated margins, afford ready means of recognition. The fertile frond is narrowed as in other *Lomarias*, and shows the same kind of division as the sterile ones. A very characteristic figure, the only one hitherto published, occurs in *Baildon's Nature-Printed Ferns*, whence the annexed woodcut of a sterile and fertile pinna are derived. M.

## CEPHALOTUS FOLLICULARIS.

HERE we have one of Nature's most singular vegetable forms. While in the genus *Nepenthes* the pitchers appear to be extensions of the leaves, and in *Sarracenia* the leaf itself seems hollowed out into the peculiar horn or pitcher-like form, we find that in this remarkable plant the pitchers are wholly distinct from the leaves. It is of small growth, a well-grown specimen rarely getting more than eight or nine inches across, but it is nevertheless one of remarkable interest. It is a native of New Holland, and, therefore, cannot be expected to live long in the intense broiling atmosphere, accompanied by insufficient light, to which we often see it subjected. I have seen the *Cephalotus* grown in a house devoted to the culture of *Victoria regia*, and to flourish for a time,

the plants being covered with a bell-glass, and allowed very little air; but they were standing within *six inches of the glass roof, and consequently received every ray of light*, being merely shaded during bright sunshine by tissue-paper. Under such treatment the plants grow fast, but I have never known them live long. I have also seen it grown within six inches of the front lights of a cool greenhouse, with the bell-glass tilted so as to give plenty of air, the pot in this case standing in a pan containing an inch of water, which must have kept the material in which the plant grew *completely saturated*. The plants in this case were quite as large as any I have ever seen, and produced pitchers in quantity, almost as black as ebony, and altogether the plants had a vigorous appearance, that I never saw in those grown under the very hot system.

The treatment I recommend is intermediate between these two extremes. The plant evidently grows much faster with a brisk day temperature in the growing season. To be placed as near the glass as possible at the end of a house where Muscat grapes are well done, with a fair amount of heat, are conditions which suit it most admirably. The bell-glass under which it is grown should be kept a little tilted day and night, and should be shaded during strong sunshine with tissue-paper, which admits plenty of light,—a most essential conducive to its continued well-doing. It is propagated by taking off the small shoots it throws out from the side, or by division of the crowns. This should be done in spring just as the plant is showing signs of growth. The material in which I find it to thrive best, is a mixture of three parts rotten sphagnum, chopped fine, two parts crocks broken quite small, the largest not larger than small peas, and one part fibrous peat, a handful of sand being mixed with the whole. The object is to secure a material that will take any amount of water without becoming sour.

Into this compost repot every spring, getting away as much of the old soil as can be done without injuring the roots. Use pots from two to six inches in diameter, according to the size of the plant. Pot high, the crown of the plant being kept well up, and plunge the pots in others two or three sizes larger, the vacancy being filled up with sphagnum. The whole should be well moistened every other day during the growing season, and once or twice a week when at rest. On no account ever allow the plant to become dry, or it will suffer materially, if not die. Keep a good look-out for green fly, which gets on the under-side of the leaves, and does irreparable mischief if not discovered.

As I have before observed, the plant delights in a brisk temperature whilst growing, say  $60^{\circ}$  to  $70^{\circ}$  by night, with a rise of  $15^{\circ}$  or  $20^{\circ}$  by day. When at rest,  $45^{\circ}$  to  $50^{\circ}$  at night, with  $5^{\circ}$  or  $10^{\circ}$  higher by day. Under these conditions, the plant will do well and live for many years, going on increasing by throwing out suckers.

*Summerfield, Bowdon.*

T. BAINES.



## STRAWBERRIES IN 1869.

**T**HOUGH the seasons of 1868 and 1869 have been very fertile in general experiences for the Gardening fraternity, yet, perhaps, in no other instance have the constantly varying changes of temperature produced so marked an effect as in the case of the Strawberry. It will be remembered that the season of 1868 was a very short one, owing to the fact that as soon as the strawberries began to ripen the temperature rose to such a degree as to be almost tropical. The consequence of this was that all the late fruits were literally roasted into colour long before they had attained maturity; and owing to the long drought with which this extreme heat was accompanied, the plants were forced into a prematurely dormant state just at the time when they ought to have been making their best growth for another year's fruit. In fact, they did not commence to make growth until the rain came in the autumn, and though their progress then was rapid enough, yet the season was too far advanced for them to make well-ripened crowns for another year. Another result of the premature state of rest to which they were brought was that a great many of them started their blooming crowns in the autumn, so that this season quite a large per-centage of the plants have proved quite barren, while in no case could I perceive that there was evidence of a chance for a full crop. And although, from the long-continued low temperature which has prevailed through the spring, the blooming season was retarded by three weeks, still they were not safe, for no sooner were they in full bloom than a frost of seven degrees laid them low, blackening every exposed bloom, so that a good half of only a moderate crop was destroyed, and those only remained which were well protected by the foliage.

From these circumstances, the value of many sorts which possess the valuable property of bearing short footstalks and of blooming under the foliage has been greatly enhanced in such a season as this. One of the sorts which possesses this property in the highest degree is Rivers' Eliza. Under any circumstances of season, I consider it one of the most valuable strawberries that a gardener can grow, for it is eminently prolific, of a fine bright colour, with good flavour, and large enough for most purposes. Next to this for usefulness, I rank the President, a most excellent sort for general use; then Victoria and Sir Charles Napier; and in good years, Reeve's Eclipse, which, however, this year fails completely. These are what I call my stock varieties. Gardeners are so often called upon for dishes upon dishes of strawberries, for purposes for which they would not like to disturb the finer dessert varieties, such as Dr. Hogg, Mr. Radclyffe, the Queen, and such-like kinds, that it is absolutely necessary to keep up a stock of the older varieties, which, although they may not come up to exhibition-point, will, during the season, afford a very regular supply of very fair fruit for all ordinary purposes. In the present season they are my mainstay,

and chiefly, I believe, on account of their hardy constitution, and for the reason that they throw up abundance of leaves to shelter the bloom.

I have gathered a few very fine dishes of Dr. Hogg, but the crop is very partial, and nearly close to the crown. Mr. Radclyffe is almost a failure, as are other fine sorts of a similar stamp. I like the way in which Dr. Hogg develops itself in our soil; but I fear Mr. Radclyffe will prove rather tender, with too much of the constitution of the Queen. Our soil is strong, with a cool bottom, and in favourable seasons we have very large crops. I plant a bed every season, and destroy one of an equal size, so that I never have any plants over three years old. The plants are all layered in 3-in. pots as early as possible, and when planted in deeply trenched, well-prepared soil, generally produce a very fair crop of fine fruit the first season.

*Redleaf.*

JOHN COX.

### THE OLD MULE PINK.

HOW seldom this good old plant is to be met with now-a-days in perfection and quantity! It is scarcely possible to conceive a more glorious object than a compact tuft of it. It is admirably adapted for all bouquet purposes, and lasts in bloom a tolerable length of time. It strikes freely under a hand-glass, in a shady position, from pipings, taken off as soon as it has done blooming. We grow a striped kind, which is really very pretty.

*Wrotham Park.*

JOHN EDLINGTON.

### PLANT HOUSES.

HERE are many forms of hothouse which may be employed successfully for the growth of stove plants, such as span-roofs, half-spans, and lean-to houses, but for the growth of specimen plants the span-roofed house is undoubtedly the best, as it affords the plants more light and air, at the same time that it may be made to form an ornament in a garden where no other style of house could be tolerated. So says Mr. Williams in his new work\* on the cultivation of Stove and Greenhouse plants, and we quite agree with him. He has in this work given a plan and section of a well-contrived stove and greenhouse, such as may be fully recommended to those about to erect either kind of structure, and which we here reproduce by his permission, accompanied by a portion of the descriptive remarks, which will serve as a specimen of the practical character of the book.

We give here, continues Mr. Williams, a ground plan and end section of a span-roofed house [fig. 1], suitable for the cultivation of specimen stove plants.

\* *Choice Stove and Greenhouse Flowering Plants, comprising Descriptions of upwards of One Thousand Species and Varieties, accompanied by Instructions for their Cultivation.* By Benjamin S. Williams, F.R.H.S. Published by the Author. A much needed practical treatise on the management of the most important Stove and Greenhouse Flowering Plants, and one which may be recommended as a trustworthy guide to the cultivator.

It is 50 ft. long, 20 ft. wide, and 12 ft. high; and contains a table next the outer wall on each side and end, a walk 3 ft. wide, and a centre table, which has a second

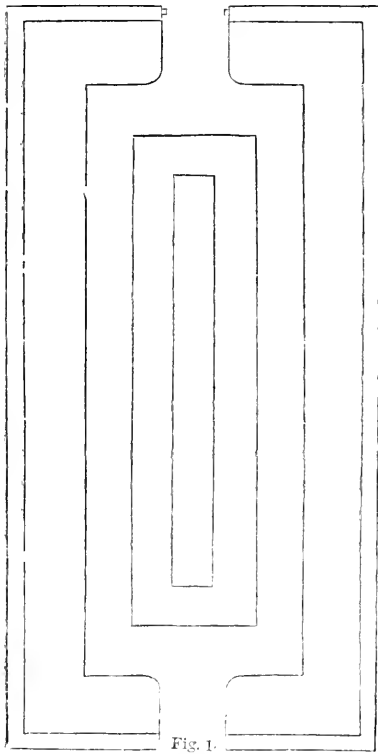
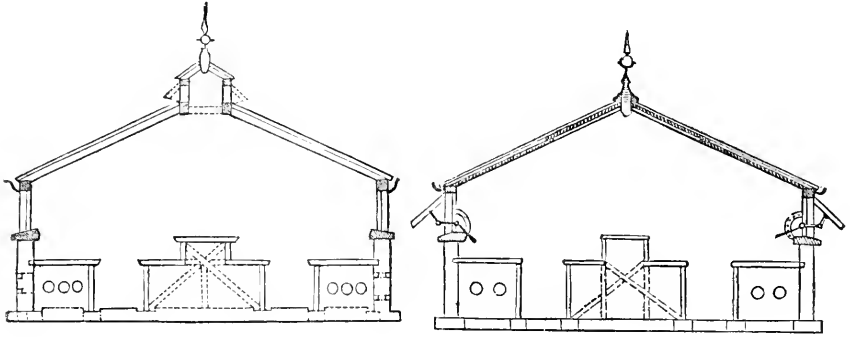


Fig. 1.

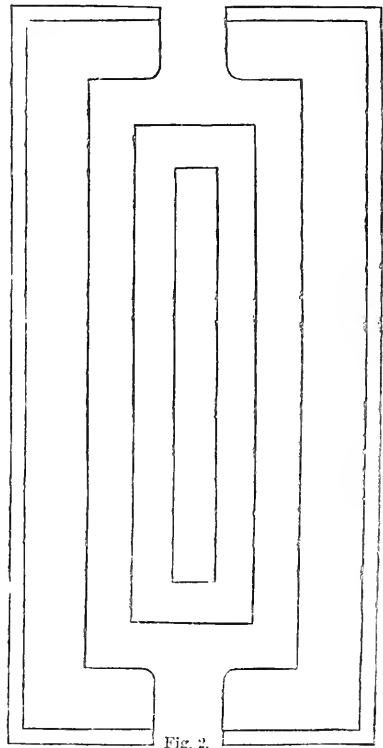


Fig. 2.

table 1 ft. higher running down its middle. These tables should be of slate with iron supports, while the floor and path are best concreted with good Portland

cement mixed with sand, which makes a substantial and comfortable floor and pathway, is easily kept clean, harbours no insects, and stands a great amount of wear and tear. The double or folding doors are the best for such structures, because, if large plants have to be moved in and out, they afford greater space than the doors in ordinary use. The doors should always be fixed so as to open inwards, which is more convenient, and besides, the glass is not so liable to be broken through the violence of the wind. The side lights or sashes are 2 ft. in height, and need not be made to open, but instead thereof, some large iron or slate ventilators should be built in the brickwork beneath them, opposite the hot-water pipes; by this means the air is prevented from blowing upon the plants in a raw or cold state. We also recommend that large drain-pipes be laid in the ground, passing from the outside under the foundation to the inside of the house, and rising under the heating pipes, by which means fresh sweet air may be admitted, even in severe weather if necessary, without detriment to the plants. The lantern roof, shown in the figure, we consider the very best style of top ventilation for a stove, because it does not let the cold air in directly on the plants.

So much for the Stove. The Greenhouse (fig. 2) is, it will be seen, very similar thereto in the general features of its construction; but there is this difference, that in the greenhouse, the side lights are all made to open, and the lantern is not used, but the upper sashes of the roof slide up and down in the ordinary way. The underground system of ventilation should be applied to this structure as well as to the stove, as it affords means of maintaining a pure and healthy atmosphere in the interior without injury to the plants even in the most severe weather.

In this practical way Mr. Williams discourses on a variety of general topics, adding special instructions for culture under the various generic headings.

M.

## DECORATIVE PLANTS FOR THE PLEASURE-GROUND.

**D** MAY first notice *Sambucus racemosa aurea*, which should never be omitted, however limited the space. It is somewhat singular that this plant should be so seldom met with; it certainly cannot be on the plea that it is either scarce or high-priced, more likely that it is little known, at least I presume such to be the case, as it seems a stranger both to the professional and amateur gardeners who visit here. This plant is the property of the poor as well as of the rich man; it may be purchased for a few pence, and increased *ad libitum*, as cuttings will strike with as much, if not more, freedom than a willow. We have no plant so well adapted as this to lighten up masses of dark green, owing to its deep golden colour. If planted too profusely, it is apt to dazzle, and become oppressive to the eye. It grows vigorously in any situation, and must be pruned sharply during winter to keep it within limits, and to prevent the plant getting naked at the bottom.

*Virgilia lutea* belongs to the same class of colour, and is of great beauty, but only during the autumn months. It is not so dazzling as the *Sambucus*.—more delicate, not so fiery, nevertheless equally attractive. The slow habit of growth unfits it for a mixed shrubbery; it is best adapted to stand as a single specimen, or in groups in an open and rather warm situation.

*Liquidambar styraciflua* is of a stronger habit than the *Virgilia*, and will thrive in a more exposed place; still, it cannot be called robust. The leaves during autumn become of a bronze colour, and are exceedingly pretty.

*Populus argentea* holds a place among our timber trees, but is so very accommodating that it may easily be kept as dwarf as an ordinary shrub by the free use of the knife. Its very silvery foliage makes it a valuable acquisition, either in the park or pleasure-ground, but it comes out with greater effect when planted in a mixture of green. This plant, I feel certain, only requires to be better known to be appreciated to the extent it deserves. It is readily increased by layers or cuttings; even pieces of the root will produce plants.

*Acer Negundo variegatum* cannot be too highly esteemed. It would be difficult to speak too strongly in its praise, for its white leaves blotched with green produce an agreeable and a charming contrast. Its natural disposition is to spread on the ground when young and to form itself into a round-headed bush, but by keeping the side branches cut back for a few years, and training up a central leader, it will take the form of a handsome tree.

Of this class there are many more plants to accept, and their number is yearly increasing, so eventually it may be hoped that greater attention will be given to the arrangement of colour in our parks and pleasure-grounds.

*Tortworth.*

ALEXANDER CRAMB.

## SEASONABLE HINTS FOR AMATEURS.—AUGUST.

**W**HILST the bedding plants are now in all their beauty, the amateur should carefully look over his garden, and see how he may alter and improve it another season. To keep up the interest in it, the arrangement should be varied as much as possible every year, otherwise it becomes monotonous. The propagation of bedding plants for next season should be commenced at once; most kinds strike freely at this season without bottom-heat, and plants thus propagated are much more easily kept over the winter than cuttings struck late in bottom-heat. Pans or shallow boxes are in general most convenient, as they can be moved about at pleasure; they should be well drained, and be filled with any light soil having plenty of white or river sand mixed with it. The cuttings should be inserted in these boxes, but care should be taken not to plant them too thickly,—no two cuttings should touch. Pans or boxes containing cuttings of *Verbenas*, *Petunias*, *Pentstemons*, &c., should be put into a cold frame; the lights should be kept on for a few days after they are first put in, and they should be kept shaded, if the weather be sunny, to prevent the cuttings

from flagging. But the lights, from the beginning, should be taken off at night, that the cuttings may receive the heavy dews which generally prevail during this month; and as soon as the cuttings will stand the weather without flagging, the lights must be kept off during the day as well as at night. Under this treatment, cuttings put in early get well rooted and acquire a strong hardy habit, and are kept over the winter in pits or frames with very little trouble. Pelargoniums of all kinds strike freely in any warm situation in the open air. Good-sized cuttings put in early soon make nice vigorous plants, and are better to winter than very small cuttings struck late. In getting the cuttings, care should be taken not to disfigure the plants or the beds. A shoot should be taken off here and there, where it can be best spared.

As most bedding plants will now be growing freely, the beds should be occasionally looked over, and all rambling shoots should be stopped or regulated, and all decaying flowers and seeds picked off. Dahlias, Hollyhocks, and other tall-growing plants will require to be regularly tied up to stakes. This is a good time to transplant Wallflowers for spring-flowering. A quantity of young plants should be pricked out into a bed for transplanting into the borders when they are cleared for the winter. Lawns should be kept regularly mown, and walks should be kept well swept and rolled.

The stronger-growing hard-wooded plants, out of doors, if standing in a shaded place, should now be removed to a more sunny situation, so that the wood may get properly ripened, which will cause them to flower well next season. The shading of the young stock in pits and frames should now be gradually dispensed with. After the middle of the month the lights will be better off the frames both night and day, unless heavy rains or cold rough weather sets in. Well-grown plants of Fuchsias will now be objects of great beauty, and will, with attention, continue so for some time. They should be kept well watered. Pelargoniums for autumn blooming must now be carefully attended to.

In the Kitchen Garden, the ground between all growing crops should be kept well stirred by forking and frequent hoeings. Broccolis, Brussels Sprouts, Borecoles, and Savoys should be earthed up. If the weather be dry, Celery should be kept well watered, and be regularly earthed up as it advances in growth. As the crops of Peas are cleared from the ground, room will be found for other crops. It is not yet too late to plant Celery for spring use, if from want of room a sufficient breadth has not already been planted. Lettuce and Endive, for autumn use, should now be planted out. The whole of the early Potatos for sets next year should be got up at once, exposed to the sun and air for a few days to green, and then, when dry, be carefully stored away. Sowings of Prickly Spinach for winter use should be made about the 1st and about the 10th of the month; also sowings of Black-seeded Brown Cos, and Hammersmith Hardy Cabbage Lettuce to stand over the winter. Tripoli Onions for spring use

should also be sown the first week in the month. Cauliflowers for hand-glasses and winter storing should be sown about the 10th, and again about the 21st. All spare ground may be sown with Turnips up to the middle of the month. Herbs, when fit, should be cut, dried, and tied up in bunches, and hung up in an open-air dry place, or packed away in drawers.

Fruit trees should be carefully looked over, and all superfluous shoots not wanted another season should be removed at once. This will admit more air and sun to the fruit, and to the wood and buds for next year's bearing; as the fruit becomes ripe it should be carefully gathered in a dry state. To protect the fruit from wasps and flies, the trees should be well covered with hexagon netting. As soon as all the fruit is gathered off the Raspberries, the old canes should be cut clean away to admit more sun and air to the young canes. Fresh plantations of Strawberries should be made at once, if not done last month. Grapes in green-houses will begin to colour towards the end of the month. They should have abundance of air during the day, and a considerable amount at night also, with more or less fire heat according to the state of the weather, and consistently with the welfare of the plants in the house.

*Stourton.*

M. SAUL.

### PARADISE GEM MELON.

**H**ERE early Melons are in demand, this variety will undoubtedly prove a real acquisition. I planted it in a pit three weeks later than the other kinds, but it was ready to cut equally as early. It has, to judge from appearance, some of the Malvern Hall breed in it. It is a remarkably free grower, of good habit, sets most freely, is nicely ribbed, and of average size. Where scarlet-fleshed melons are at all in demand, I would advise a trial of the Paradise Gem.

J. E.

### PEGGED-DOWN ROSES.

**F**EW persons are aware of the beauty and elegance of Pegged-down Roses, when treated as they should be. It appears strange that so few are to be seen grown on this system, although all who once see them agree in saying that Roses are never so effective as when thus managed.

I will attempt to give a short sketch of some of my plants as they are at the present time. I have just counted 27 blooms on *one* branch of John Hopper, 23 on one branch of Madame Boll, 29 on one branch of Général Jacqueminot, 19 on one of Comtesse de Chabillant, 18 on one of Louise Odier, 24 on one of Souvenir de Charles Montault, 30 on one of Anna Alexieff, 16 on one of Madame Clémence Joigneaux, and there are scores of others with nearly the same number of flowers. Now when it is considered that each plant has from five to eight branches loaded with blooms, the effect produced by them can be imagined. I may also state that although these wreaths of Roses are so plentiful, the blossoms

are by no means inferior to those on the standards, as the greater portion of the flowers that have this year brought me ten first prizes, including four silver cups, have been cut from these beds.

Perhaps the cause of the pegged-down system not being more general, is the length of time required to bring the plants into perfection, viz., three years; but against this drawback the cultivator must consider that they never wear out, as the young wood *only* is each year pegged down, all the old blooming shoots being cut away. Some of my beds have been planted twelve years, and are in as fine condition now as when they were three years old.

To those who contemplate growing Roses on this plan, I will give a few words of advice. Obtain plants on their own roots only: do not be persuaded to plant any others. Plant this autumn, and cut down to two or three eyes next spring. The next spring cut down to about four or five eyes, and by the following spring you will have shoots from four to eight feet long, which will produce the effect I have endeavoured to picture. One cause of the great beauty of these Roses is that both flowers and foliage are brought under the eye, yet not so low as to become soiled and spoiled by the storms. Another advantage that I have not yet spoken of, is, that the Roses are in bloom both earlier and later than on any other system, as the points of the rods are always into bloom before the base, and when the latter portion has bloomed, the young strong shoots from the stool produce such magnificent flowers up to nearly Christmas as can be obtained in no other way that I am acquainted with. Let the ground be well trenched and manured; plant roses on their own roots only; and I am sure the cultivator will be gratified with his experience of Pegged-down Roses.

*The Cedars, Castle Bromwich.*

CHARLES JAMES PERRY.

### HOW I GOT OVER MY "DISENDOWMENT."

**A**BOUT two years ago, owing to a change in the government of this place, I was "disendowed" from having my usual supply of Manure from the farm-yard, and was told that if I must have manure, I must buy it. These were hard lines; for to send "to Coventry" for manure would have taken more of our time and money than my estimate would permit. There was, however, no getting away from the fact that I was disendowed of my chief staple, "manure,"—that which gardeners so much depend upon for the production of good vegetables, and which are required at this place in no very moderate quantities. The problem generally held before the gardener to solve is this,—Given a piece of land, how to grow, during all your life (and the lives of as many as may live and die in the culture of that piece of land), a good and plentiful supply of vegetables, rich and crisp, and in every way equal to vegetables seen at any one's table. In my case, the supply of vegetables was to be nothing short of that produced previously to the disendowment of manure, and I had to set about the manufacture of manure as best I could.



Having a large tract of pleasure-ground kept under the mowing machine, it occurred to me that the short grass, which hitherto had been a nuisance, might in some way be utilized. I could not give it away, and when it was thrown into heaps it stunk intolerably. I resolved, therefore, to try how cattle could be fed upon it. On the strength of this idea I immediately set to work, and in the rubbish yard made a cattle-shed and fold-yard, sufficiently large for the accommodation of four animals. The yard littered down, and the water laid on, I was prepared for the cattle. A farmer close by let me have four yearling heifers, for which he allowed me so much per week for their keep. This was about Christmas, and until grass came these animals were fed with hay saved from those parts of the pleasure-ground which it is not so necessary to keep closely mown. When, however, grass-mowing with the machine commenced, it was carted into the fold-yard, and readily eaten up by the cattle, and any excess of what they required to eat was trodden under foot and speedily made into manure. All refuse from the garden was thrown into this place, and was either eaten or trodden into manure. In the course of the summer the cattle thrived amazingly, and it was now evident that the scheme was a good one, as I could manufacture manure as fast as it could be dug in, and not in very moderate quantities either.

Having thus given a brief statement of how, in the manufacture of manure, I got over my "disendowment," I may be allowed also to state in what other respects the fold-yard proved useful. Every one knows what luxury there is in the keep of a cow for a family, and on the strength of what I knew the cattle-yard could do, I bought a milch cow, for which I paid £15 10s., and during the first year, besides supplying my house with what milk and butter we wanted, we sold, including the price of the calf, milk and butter, as much as exactly realized the purchase-money of the cow. The cow is this year free to begin with, and I am pleased to say in better condition, and so far as the season has gone, yields more and of even better quality than her yield of last year, which is proof sufficient that her keep and habitation in the rubbish yard is as nearly as possible that which she likes. In addition to the animals mentioned, I have also some pigs, which thrive amazingly on short grass, cabbage leaves, run cauliflowers, &c., and which add much to the richness of the manure. In the same yard I have also some fowls, so that this yard not only produces a plentiful supply of manure for the garden, but supplies my house as plentifully with good milk, butter, bacon, and fresh-laid eggs,—things not much to be despised either in town or country. In this case of "disendowment" it has happened to prove better for me in the end, than if my supply from the "state farm-yard" had been continued. I should only have got my supply in dribblets, now I have it in abundance, either well-made or under-made, at any time that I want it. Lest it be considered that I was eagerly selfish in establishing a cow for my own use, I should say, in justice to myself, that eight years ago this formed part of my agreement; but during that period circumstances in my house did not

particularly require a cow, and not until I really wanted it did I make use of my privilege.

If a man has for his motto "Live and let live," and this coupled with a fair share of well-directed energy, depend upon it, it matters little whether or not that man be "disendowed," or even if "disestablished," he will right himself again. I have no doubt there are many large gardens similarly circumstanced to those of which I have now charge, where the short grass might be utilized something after the manner above described.

*Combe Abbey Gardens.*

WM. MILLER.

### NEW ROSE-COLOURED CANTERBURY BELL.

**M**UST beg a small space in the FLORIST AND POMOLOGIST to write a word of praise in reference to this fine new biennial. It is a true pale rose-coloured variety, with flowers as large as the ordinary blue and white varieties, but surpassing either in beauty. It was distributed by Messrs. Vilmorin and Cie., of Paris, some two years ago. It has been very fine this season at Chiswick, Mr. Barron having grown many plants in pots for conservatory decoration at South Kensington, for which purpose it is admirably adapted. There are both double and single varieties of this colour. I got some seed from Messrs. Vilmorin and Cie. in 1867, but not a single plant has produced rose-coloured flowers. I inferred from this that the character of the flower had not been fixed, and that it was uncertain if it would come of the new colour. Mr. Barron informs me that not one of his plants has failed to produce rose-coloured flowers [they were very beautiful], so I am driven to the inference that what I received as seed of the rose-coloured was simply seed of the old white variety.

QVO.

### DENDROBIUM JAMESIANUM.

**T**HIS new Dendrobe belongs to the Nigro-hirsute section, and is closely related to *D. infundibulum*. It has stiff furrowed stems, oblong pointed leaves split at the apex, and large showy flowers, which are white with the basal convolute portion of the lip of a deep cinnabar red. The cuneate-ovate petals are very large, much broader than the sepals, which are lance-shaped, the two lateral ones being extended backwards into an extinguisher-formed spur. The lip is wedge-shaped and trifid, the lateral lobes red, obtuse-angled, and covered on the inner surface with little asperities, the presence of which distinguishes this from the allied species; the middle lobe white, quadrate, retuse, wavy, and denticulated. The species is a native of Burmah, whence it was sent to England by Colonel Benson, to the nursery of Messrs. Veitch and Sons, where our sketch was made.

The plant has been dedicated to Mr. James Veitch by Professor Reichenbach in the following words:—"It has been our misfortune to have to cancel the

*Dendrobium Veitchianum*, dedicated by the late Dr. Lindley to Mr. James Veitch, and reduce it to the *Dendrobium macrophyllum* of Richard [*D. macrophyllum*, *Hort.* being the *D. superbiens*, *Rehb.*]. We did, indeed, our best, when naming in honour of Mr. John Gould Veitch a *Dendrobium Johannis*, and a *Dendrobium Gouldii*; yet the spirits of the chieftain of the Veitchian family may not be



quite reconciled to the loss of the tiger-flowered Dendrobe, with the hispid ovaries and the shining leaves. *Corrigeons la fortune!* Let us try to gratify the feelings of our highly valued correspondent by the dedication to him, under the above name, of this splendid novelty." M.

#### FRUIT PROSPECTS IN NORTH NOTTINGHAMSHIRE.

IN April there was a promise that we should have a great crop of nearly all kinds of hardy fruits in North Nottinghamshire, but the peculiar weacher of May and June has thinned them very much. Pears and Apples will, however, be yet nearly an average crop in most orchards in this locality. With me, Pears as pyramids and bushes on the quince stock show heavy crops, as do most kinds on the walls. Apples grown as pyramids on the paradise stock


likewise show good crops, but the young shoots are all sadly infested with aphides, which require constant attention to keep them under. A quantity of cordons on the French paradise stock was planted here last year, and these are now bearing nice crops. Apricots on the open walls are nearly everywhere a failure, and even where the trees were protected by glass lights, the crop is only a half one.

Plums are a very thin crop, except on pot-trees grown on a heated glass-covered wall. Cherries on standards and also on walls have borne good crops. Currants, red, white, and black, are all bearing heavy crops; but I have never seen the foliage before so covered with aphids. Every breeze is now whirling the leaves off, all the bushes being sucked nearly dry by this insect pest, and of course the fruit will be small and flavourless. This has only occurred where the bushes have been grown close together, for those grown in rows, or singly as standards, have partly escaped. Gooseberries this year are a very abundant crop here, and free from caterpillars. Strawberries are cropping very unevenly. Some kinds that were well watered during the dry hot weather last summer, such as Ingram's Prince of Wales, President, Sir J. Paxton, Rivers' Eliza, British Queen, Dr. Hogg, and Cockscorn, are bearing heavy crops. Black Prince suffered very much last year from the dry summer, and crops badly this year; but on account of its earliness, it cannot yet be discarded from a collection. I find that the most generally useful strawberries grown are Rivers' Eliza and Vicomtesse Hericart de Thury, for they can always be depended upon for bearing well on all soils. Another old sort I find the best of all for growing for preserving, namely, the Grove-End or Old Scarlet; this bears abundantly with me this year. Raspberries are a plentiful crop, and the same with Filberts.

*Welbeck.*

WILLIAM TILLERY.

## NEW FLORISTS' FLOWERS.

OMETHING more than two years ago, Mr. Cripps, of Tunbridge Wells, produced, at one of the meetings of the Royal Horticultural Society, some fine seedlings obtained from *Clematis lanuginosa*. They have not as yet been distributed,—it is said from the difficulty of propagating them. At the meeting of the Floral Committee, on the 15th of June, Mr. Cripps produced a very fine double *Clematis*, the origin of which was not stated; it was named *Excelsior*, and was of a greyish-blue colour, with a kind of flame of reddish-purple along the centre of each sepal, while the centre of the flowers was anemone-like, composed of a bunch of small florets of the same greyish hue. It is perhaps open to doubt whether, when it is propagated, it will continue to produce this double form: but should it do so, it will be a valuable addition to these grand decorative plants. Mr. Cripps also had *Clematis Lady Cicely Nevill*, a large white flower, apparently a seedling from *C. lanuginosa*, but with eight large and somewhat long and flimsy sepals, instead of the six generally borne by the supposed parent. The double variety was awarded a First-Class Certificate.

The new *Coleus* eruption, almost a horticultural epidemic for the time being, has not yet subsided, though some appeared to think that the new and handsome golden varieties would prove the very *ne plus ultra* of their production. *Coleus M. Saison*, recently shown by Messrs. Downie, Laird, and Laing, and awarded a First-Class Certificate, marks a decided advance, though it had a delicate look about it. Apparently a sport from *C. Veitchii*, there is a dark greenish-brown blotch in the centre of the leaves, lit up with deep rose in spots and lines, the leaves being margined with white; it is very pretty, very novel, but it must be admitted, looks as if it would, in the Micawber sense, have to make an effort to live.

The new large-flowered and fancy *Pelargoniums* shall be reviewed in the usual form later. Plenty of other *Pelargoniums* have received First-Class Certificates. To commence with the double varieties, three new ones have been so distinguished, viz., *Victor Lemoine*, brilliant scarlet, with large and full flowers, the petals unusually broad and rounded; *Wilhelm Pfitzer*, with large flowers of good shape of a bright scarlet hue, and a dwarf and compact habit of growth; and *Marie Lemoine*, flowers large and full, of a soft pale pink, and good habit. The former (which I can't help thinking will prove to be identical with *Victor*, exhibited last year, and awarded a First-Class Certificate) was exhibited by Messrs. Downie, Laird, and Laing, the others by several exhibitors.

First-Class Certificates have also been awarded to the following *Variiegated Pelargoniums*:—*Waltham Bride*, from Mr. William Paul, Waltham Cross, a silver-edged variety, with a vigorous and yet compact habit of growth, in character not unlike Flower of the Day, and producing pretty pure white flowers; and *Bright Star*, from Mr. C. Turner, Slough, belonging to the same section, the leaves edged with creamy white, of good habit, with bright orange-scarlet flowers. Also to *Variiegated Ivy-Leaved Pelargonium Mr. Lambert*, from Mr. Harman, Denham, near Uxbridge, much in the way of Duke of Edinburgh, but having more yellow in the variegation, the habit robust, and the variegation good. Two plain *Ivy-Leaved Pelargoniums* have received the same award; one, *Willsii rosea*, a capital hybrid variety raised by Mr. Wills, having finely-formed flowers of a pale bright rose hue, exhibited by Mr. J. W. Wimsett, Chelsea; and *Gem of the Season*, with flowers of a similar character in point of shape, but of a soft pinkish-salmon hue, from Mr. S. Ford, the Gardens, St. Leonard's Lodge, Horsham. The latter has remarkably variable leaves, some having the centre darker, some paler than the margin, and others almost golden. Both of these are unquestionable acquisitions. Then, of the ordinary zonal type, First-Class Certificates have been awarded to *Duchess of Abercorn*, rosy salmon, shaded with orange on the upper petals, large, circular, well-shaped flowers, and excellent habit; and to *Illuminator*, rich bright orange-scarlet, large, and very showy, both from Mr. Mann, of Brentwood, the raiser of Lord Derby; and a Second-Class Certificate to *Lord Stanley*, brilliant deep crimson, the flowers small, but smooth, and of fine shape, good trusser and habit, from Messrs. F. and A. Smith, Dulwich.

Of *Roses*, First-Class Certificates have been awarded to H. P. *Mons. Woolfield*, bright pink, suffused with rose in the centre of the flowers, which were large and full, a delicate and beautiful variety, from Mr. C. Turner, Slough; to Climbing Rose *Duchesse de Mecklenburgh*, with pale salmon-coloured flowers, from J. H. Arkwright, Esq., Hampton Court, Leicester; and to Pillar Rose *Prince Leopold*, with crimson flowers shaded with dark, brighter in the centre, from Mr. William Paul, Waltham Cross. Finally, a First-Class Certificate was awarded to Mr. C. Turner, for a *White Clove* named *The Bride*, having large and full white flowers tinged with cream, likely to be very valuable for cutting from.

There are now some really good things in the way of rose-coloured and lilac bedding *Lobelias*, for in addition to the useful little *Beauty of Ravensbourne*, and the somewhat taller-growing *Rosy Gem*, some useful varieties in the same way were produced at the meeting of the Floral Committee on July 6, by Mr. Appleby, gardener to Mrs. Harvey, Brixton Hill. To one of these, named *Mauve Queen*, a First-Class Certificate was awarded: it is a variety of good, though compact growth, producing plenty of bright lilac flowers. I put this variety, with others of what is termed the Tom Thumb type, in an intermediate position, between the ordinary *L. speciosa* type of growth and what is known as the *pumila* section. The latter are not continuous-blooming in some instances, and we have the testimony of Mr. Gibson that they will not as a general rule stand exposure to the sun.

Hybrid Nosegay *Pelargonium Harry George*, from Mr. J. George, of Putney, awarded a First-Class Certificate, marks a fine advance in this section. The flowers are of a bright deep rose hue, lit up with orange, the pips large, stout and round, and produced in noble trusses. For the exhibition stage, this variety appears well adapted. The Double *Pelargoniums* are continually receiving new additions, though one fails, except in rare instances, to notice the advance made. *Marie Lemoine*, *Victor Lemoine*, and *Wilhelm Pfister* are three kinds all lovers of these double kinds should cultivate; any advance on either of these must be something good. But when are we to see the promised double white variety? *Perpetual Picotee Prince of Orange*, from Mr. Perkins, Leamington, and awarded a First-Class Certificate, is a grand thing, either for conservatory and house decoration, or to cut from; it has flowers with a pale yellow ground, edged with bright red, large in size, full, and good.

I have just seen a grand new bedding *Tropaeolum*; it is a seedling from that most useful variety, Carter's Crystal Palace Perfection, a sort that rarely seeds, but the raiser of the new kind managed to save enough seeds to give him three seedling plants; of these, two were altogether unlike the parent, and quite worthless, but the other is identical in every respect with the parent variety, excepting that the flowers are of a brilliant dark crimson. It is a true trailer, creeps close to the ground, wants no pegging-down, and it is characteristic of this type that it is wonderfully floriferous.

R. D.

## FRENCH *versus* ENGLISH FLOWER-GARDENING.

WE are in a likely way soon to be Cannalized, as well as Haussmannized, if the present rage for French gardening goes on. Already certain of our most respected old, and, as we considered, staunch gardeners of the old school, find something in it to make them look wise; but a little goes a long way with most people. I may be wrong, but if so, I am willing to be corrected, in expressing my opinion that any practical gardener will find more of French gardening in Battersea Park than in all the parks of Paris,—added to which, let me say, they will also find better taste, and an infinite amount of variety, which they would do well to imitate, by adding to the limited selection of plants at present in general use.

My object, however, in introducing this subject was to ask how are we to benefit from this? Already taste has come forward to rescue us from the too prevalent system of half-hardy nursery lines, and to show, by every sign, that the time is come to rout this out, as was formerly the case with old neglected herbaceous borders, which latter had through neglect become eye-sores, containing plants that never bloomed in consequence of bad usage, and spaces never filled in consequence of neglect, while bare places were left in the shrubberies to be made gay with a variety of weeds, which might have been most appropriately filled with some of the many free-growing handsome plants of this neglected class.

But are we to find the only remedy in these jacks-in-the-green? Have we not been putting in odd out-of-the-way corners our Roses, such helps as they are, too, to lighten up our shrubberies, and such ladies' pets that they are never out of place? Then there are our Sweet Peas, Hollyhocks, Foxgloves, Phloxes, Cloves, Pinks,—all more or less neglected. Even Mignonette can scarcely be accommodated with a spare corner, and Annuals are out of the question.

Is not a Hollyhock leaf as interesting as that of a Castor Oil plant? Is not a bunch of Sweet Peas as beautiful as a tuft of Cannas? Paris parks seem made up of everlasting Cannas, in masses that look as if they were grown as green crops for the cattle.

ANON.

## MONTHLY CHRONICLE.

THE Gardeners' Examination of the Society of Arts was held in April last, when the following young gardeners were judged worthy to receive the various Certificates and Prizes offered, as stated in the following summaries:—

### FLORICULTURE.

Society of Arts, 1st prize (£5)	) MICHAEL MIDDLETON, aged 22, Richmond Parochial
Royal Horticultural Society, 1st prize (£5)	) Library.
Society of Arts, 2nd prize (£3)	) RICHARD IRWIN LYNCH, aged 19, Richmond Parochial
Royal Horticultural Society, 2nd prize (£3)	) Library.

### FRUIT AND VEGETABLE CULTURE.

Society of Arts, 1st prize (£5)	) MICHAEL MIDDLETON, aged 22, Richmond Parochial
Royal Horticultural Society, 1st prize (£5)	) Library.
Society of Arts, 2nd prize (£3)	) ALFRED BRADLEY, aged 21, Deptford Local Board.
Royal Horticultural Society, 2nd prize (£3)	)

The following candidates obtained Certificates of the 1st, 2nd, or 3rd class:—

	FLORI- CULTURE.	FRUIT & VEGETABLE CULTURE.		FLORI- CULTURE.	FRUIT & VEGETABLE CULTURE.
A. BRADLEY, Deptford (26) ...	1	1	J. MACPHERSON, Southampton (23)	—	3
B. CARGILL, Liverpool (27) ...	3	—	M. MIDDLETON, Richmond (22)...	1	1
C. FRYER, Lambeth (28) ...	3	—	W. NETTLETON, Huddersfield (31)	2	—
F. HARDISTY, Edinburgh (25) ...	2	2	W. PARKINSON, Liverpool (28)...	3	3
J. C. HIGGS, Southampton (25)...	2	—	W. RITCHIE, Edinburgh (22) ...	—	2
G. LAWTON, Hull (25) ...	1	—	J. SMITH, Richmond (27) ...	1	1
R. I. LYNCH, Richmond (19) ...	1	2	T. SMITH, Hull (18) ...	3	2

— **T**HERE is in the gardens of F. Pryor, Esq., of Digswell, Welwyn, under the able management of Mr. Earley, a Rose Hedge about 280 feet long. This hedge skirts one of the principal walks in the kitchen garden, and was originally a row of half-standards, of which the Crimson Boursault formed the mass; this row was afterwards trellised over with wire to the height of about 4 ft. 6 in., and 4 ft. in width at the bottom. Many of the original trees were then removed, and some of the best of the old and well-known sorts were planted in their places. They have all since been grown on what Mr. Earley calls the "extension system." Plenty of wood is left in, and this is tied to the trellis, and all vacant spaces are filled by budding. The whole of the row is now completely covered with growth, and has been literally loaded with blooms in all stages of development. The following varieties, which form the principal mass, seem to be admirably adapted for the purpose:—Charles Lawson, fine, and a very free bloomer; Lord Raglan, Yellow Persian; Comtesse de Chabrillant, first-rate; Blairii No. 2, beautiful flowers, very free; Gloire de Dijon, profusely bloomed; Jules Margottin, grand; Général Jacqueminot, Caroline de Sausal, Chénérolé, Anna Alexieff, all first-rate; the yellow and copper-coloured varieties of the Austrian Briar; and last, though not least, the Manetti, which gives relief and variety to its more showy rivals. That this method of cultivation is a very successful one there can be no doubt. As the trellising can be made to any height or width, the plan cannot be too strongly recommended for furnishing tall or dwarf edgings along the walks of either kitchen or flower gardens, or even to form back rows in ribbon borders.

— **T**HE beautiful *Spiræa palmata*, now being distributed by Mr. Noble, is found cultivated in almost every garden in the more northern parts of the Japanese empire, and is a most useful object when in bloom, being by far the handsomest of the species of the genus in cultivation; the deep purple-red of the stems and branches, passing into the crimson-purple of the glorious corymbs of flowers, contrasting most exquisitely with the foliage, which in autumn assumes beautiful tints of brown and golden-yellow. Like all the Japanese plants cultivated in, or indigenous to, the more northerly parts of the empire, *S. palmata* is perfectly hardy in England, and will form a valuable addition to our list of hardy herbaceous plants.

— **M**R. FOWLER'S estimate of a full crop of Grapes, such as a vine can bear for a series of years, is 25 lb. to the rod. At Castle Kennedy, in a house 35 ft. by 16 ft., and a length of rafter of about 22 ft., there are 10 rods with their complement of laterals which give 250 lb.; to that must be added, what is taken without injury, 25 lb. from each gable; giving, as nearly as possible, 300 lb. of grapes. In each of five houses the crop last year justified this estimate. Mr. Fowler says truly he could double it, but it would be at the expense of quality in the crop.

— **T**HE Apples called Stirling Castle and Small's Admirable bear a close resemblance. They are of the same dwarf habit, apparently of the Hawthornden race, and prone to bear when the trees are in a very young state, often bearing profusely on trees not more than 2 ft. in height, the second year after grafting, if on the English Paradise stock. There are, however, some differences. The fruit of the Stirling Castle is of the same shape, colour, and size as Small's Admirable, but has its eye set in a much deeper basin. The young shoots are spotted with white like those of the Admirable, but are lighter in colour; those of the latter being dark brown. The leaves of the Stirling Castle are nearly round, while those of Small's Admirable are comparatively long and pointed.







## RHODODENDRON MRS. JOHN CLUTTON.

WITH AN ILLUSTRATION.

**H**ARDY in constitution, evergreen in habit, and producing a gorgeous inflorescence, there are none among the evergreen shrubs introduced to our gardens which occupy so important a position, regarded from a decorative point of view, as the Rhododendron, of which we now give a choice illustration. It has won both name and fame in the annals of horticulture, and no more splendid floral picture can be found than that presented in early summer by the American garden—Rhododendrons being its leading feature.

The variety we now figure is considered by competent judges to be the best hardy white at present in cultivation. It has all the symmetry of truss, and smoothness of form and outline, that the most fastidious could desire; it is a remarkably free-bloomer; its flowers, from their thick and waxy texture, are, moreover, most enduring; and it comes in late, so that it is not often frost-bitten. The colour is white, just at first showing the slightest tint of blush, which passes off as the flowers become matured, when it stands out conspicuous by its purity—indeed, Purity itself, another excellent white variety, is quite surpassed by it in all essential points of merit,—truss, form, colour, and season. The pyramidal outline of the truss, with the flowers regularly disposed, each supporting its neighbour, is as near perfection as need be desired, while the smooth outline of the blossoms adds very greatly to its charms in the eyes of connoisseurs.

Rhododendron Mrs. John Clutton was raised from the variety named *Album elegans*, in the marvellous collection at the Knaphill Nursery, Woking, and we have to thank Mr. Anthony Waterer for the opportunity of recommending it to our readers.

M.

## ROSES IN POTS:

HOW TO PRODUCE THEM IN LONDON AND OTHER LARGE TOWNS.

**I**AM not fond of climbing high mountains, or cracking hard nuts, but the former, even when they seem inaccessible in the distance, are often found to yield most pleasurable exercise to the hardy pedestrian: and there are mechanical appliances for dealing with the latter, which at once save appearances, and leave us free from the risk of dental injury. Now, the art of growing Roses in large towns is to the many who only look on from the distance, as an “inaccessible mountain,” which they would rather not attempt; and to those who know little of mechanical appliances, it appears as a “hard nut” which a too sensitive appreciation of the dental organs teaches them to reject.

Will my readers bear with me while I endeavour to show what I steadfastly believe, that Roses, however difficult of cultivation in London and other sooty towns, out-of-doors, may be grown with perfect success there UNDER GLASS.

Our town friends may remonstrate, “Well, but we have tried them, and

they won't do." Yes; but how have you tried them? Probably you have bought small plants at 1s. or 1s. 6d. each, and placed them in a house with bedding plants, Camellias, and a host of other things whose conflicting interests rendered it impossible for the poor unfortunate roses to receive anything like reasonable treatment. It should be remembered that what is "one plant's meat is another plant's poison," and how would our growers of orchids, or stove and greenhouse plants succeed if they bought small plants, and if roses were cultivated in the same house with them, and a treatment followed with the view of reconciling such antagonistic interests? The growers of Orchids, &c., buy good-sized plants, have houses built expressly for them, or existing houses modified to suit them, and so it must be if the town gardener would succeed with Roses.

Well, then, what should the rose-house be? As to dimensions, these may vary according to the means or wants of the cultivator; but a span-roofed house, so constructed that the plants may be kept close to the glass, and a free circulation of air secured, is the best form of structure. Heating, although not absolutely necessary, is yet desirable, both as a protection against severe frost, and to secure the development of early flowers.

In the next place, BUY PLANTS WELL ADVANCED, plants that have passed their early and tender years in the nursery, under experienced and watchful care, and in a kindly atmosphere. Bear in mind that men will thrive on diet and under discipline that would be fatal to infants; and mature plants of roses will flourish, where young and tender plants would die.

Let us assume, then, that the cultivator has a suitable house and suitable plants, which he houses unpruned at the beginning of winter. His first act of cultivation is to prune them. If he wants the best of his flowers in March and April, he prunes in December, and applies gentle heat early in January. As the days lengthen, the heat may be gradually increased. In sunny weather the syringe should be used freely, especially in the morning. Watering must be regularly attended to, care being taken in the early stages of growth not to water too much; more water will be required, as the leaves increase in size. Smoking must be resorted to on the first appearance of green fly, and repeated often enough to keep the plants entirely free from these destructive visitants. Mildew must be guarded against. A small pepper-box, with finely punctured holes, should be kept at hand filled with sulphur, and this should be dusted freely on the leaves wherever the mildew is seen. A light shading should be provided, to be used as soon as the buds show colour. When the flowering is over, the plants should be rested by lowering the temperature of the house and by withholding water. In about a month growth will recommence with the advancing temperature of the year, when water must be again given, and the same routine of culture pursued; a second flowering will then take place in June, before the roses are in flower out of doors. When the second flowering is over, the plants may be plunged out of doors, and syringing frequently; an

occasional flower will come forth, but it is desirable to rest them there till required for use again in December.

If no heat is applied to the house, less moisture should be used, and the first flowering will take place in May, the second in July and August.

The best season for repotting Roses is September. Shake a good portion of the soil away, using larger pots when required. There is no better soil for roses in pots than strong turfy loam and cow-dung, with sufficient drift sand to render it thoroughly porous.

I shall conclude this paper with a list of a few good sorts, which appear best suited to realize the objects in view :—

<p>HYBRID PERPETUAL.</p> <p>Anna Alexieff. Beauty of Waltham. Duchesse de Caylus. Comtesse de Chabillant. Général d' Hautpoult. Général Jacqueminot. John Hopper. Jules Margottin. Elisabeth Vignerou. Fisher Holmes. Charles Lefebvre. Alfred Colomb. La France. Lady Suffield. Louis Peyronny. Madame de Stella. Madame Rivers. Madame Victor Verdier.</p>	<p>Mlle. Thérèse Levet. Marie Baumann. Maréchal Vaillant. Monsieur Noman. Pierre Notting. Princess of Wales. Prince Camille de Rohan. Victor Verdier.</p> <p>BOURBON PERPETUAL.</p> <p>Comtesse de Barboutanne.</p> <p>NOISETTE.</p> <p>Céline Forestier. Solfaterre.</p> <p>TEA-SCENTED.</p> <p>Ajax. Archimède. Gloire de Dijon. Goubault.</p>	<p>Homer. Climbing Devoniensis. La Boule d'Or. Madame Damaizin. Madame Falcot. Madame Maurin. Madame Pauline Laboute. Madame Villermoz. Maréchal Niel. Monsieur Furtado. Marie Sisley. Nina. Nitida. President. Regulus. Safrano. Souvenir d'un Ami. Vicomtesse de Cazes. Zelia Pradel.</p>
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The above will be found a very good lot to begin with, and the newer and less certain kinds can be added at pleasure, as required.

*Paul's Nurseries, Waltham Cross.*

WILLIAM PAUL.

## BUDDING VINES.

WHEN at Trentham, a short time ago, my attention was directed to an experiment which Mr. Stevens had made in the budding of the Vine, which was highly interesting, and attended with the most satisfactory results. One of the large glass cases erected for the culture of the Vine, was planted in the June of 1868 with strong plants of Lady Downe's Seedling; they made vigorous growth, and were in September of the same year budded with well-ripened eyes of the Madresfield-Court Muscat, which remained dormant during the winter. The Vines were cut down to the inserted eyes, and in March, 1869, gradually started into growth. The buds burst vigorously, and showed from three to four bunches on each shoot; all, however, were removed, with the exception of one bunch to each Vine, and these are swelling off surprisingly, and promise to make bunches of from 2 lb. to 3 lb. weight. The growth of the Vines is healthy and robust, promising well for future results. Mr. Stevens called my attention to the necessity of allowing the bandages used for holding

the buds in place to remain until growth had well set in, as by removing the ties too soon, there would be a liability of the buds being displaced by the pressure of the sap. It is evident that a judicious discrimination must be exercised as to the most fitting time for budding, both as regards the proper condition of the Vine, and of the bud; and this condition, as it appears to me, occurs in autumn, when the active growth of the Vine is subsiding, but is still so far active as to insure a vital union. It is also important to select the best matured buds.

To Mr. Stevens we are indebted for putting the budding of Vines to this practical test, and developing in its favour an unquestionable result. To say that there is novelty in the experiment would be absurd, for there is nothing new under the sun\*, but I believe I shall be correct in averring that hitherto all attempts at budding the Vine have failed to produce encouraging results. I should perhaps add, that the buds were inserted in the older portions of the stems, at about a foot from the ground, so that the buds will do equally well on the old wood as on the young.

Witley Court.

GEORGE WESTLAND.

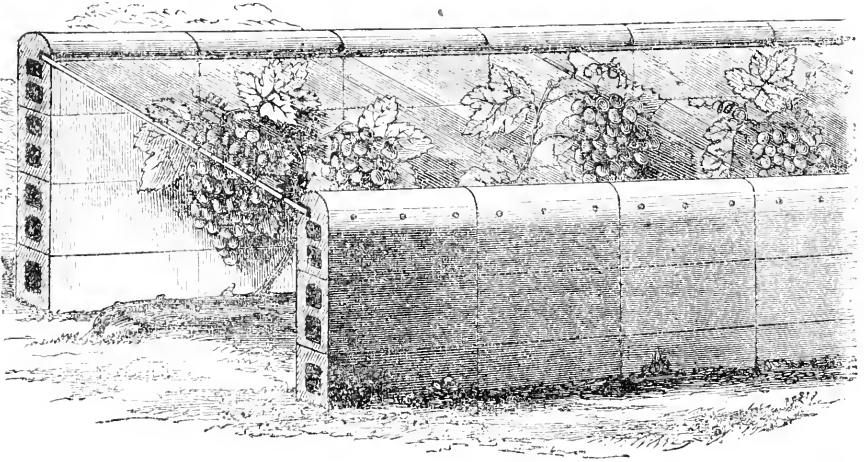
### RENDLE'S PATENT PLANT PROTECTORS.

IN our volume for 1868, we noticed the original form of these Protectors, as containing, in our opinion, the germ of a useful invention. One of their great merits was cheapness, the materials being nothing more than red earthenware tiles, and panes of orchard-house glass. The original form was semicircular, but instead of these somewhat cumbrous articles, Mr. Rendle now gives us, what is no doubt a very great improvement, namely, hollow bricks, which may be set up in any way, and with the panes of glass laid across from brick to brick, furnish a convenient and complete mode of sheltering plants, adapted for general use. The peculiar features of these improved protectors will be best understood from the accompanying figures, which Mr. Rendle has placed at our disposal.

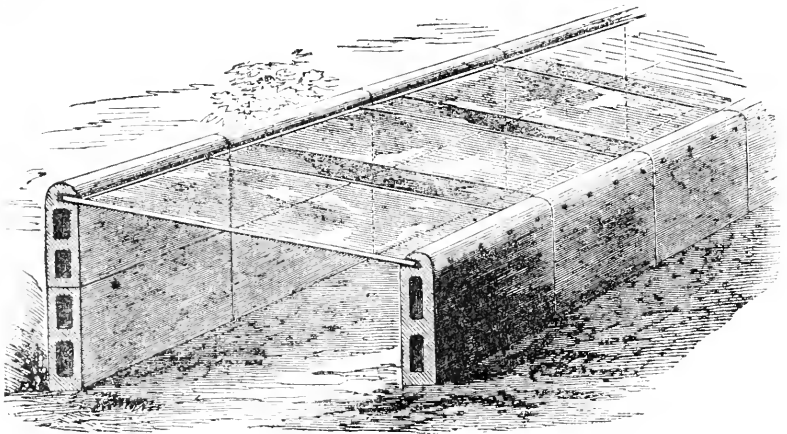
We have said that cheapness was one chief recommendation of these plant protectors, and so it is, for they consist simply of grooved hollow bricks, into the upper edge of which squares of orchard-house glass are introduced. These panes of glass are not fixed, but slide along with the greatest facility, so that ventilation may be regulated easily; no paint or putty is required, and broken glass can be replaced without difficulty by an ordinary labourer. The cost is less than that of ordinary hand-glasses. Undoubtedly the protectors afford facilities to persons of limited means to produce most kinds of flowers, plants, and fruits early, and to a degree of perfection which has hitherto been only possible to those who enjoy comparatively extensive means and appliances.

\* Mr. Fleming, formerly of Trentham, strongly recommended the spring budding of Vines in the *Gardeners' Magazine of Botany* for 1851 (p. 6). The time suggested was when the leaves were commencing to unfold.—ED.

The many ways in which these Protectors might be turned to account will at once suggest themselves, and, in fact, they are made various in size, so as to be adapted to various uses. One adaptation is that of the ground vinery, which Mr.



Rendle tells us he can sell in quantities of 1,000 feet, at about 1s. per foot, including glass. This is shown in the annexed figure. In the same way, by adopting protectors of convenient size, strawberries, salading, peas, and indeed all kitchen-garden crops requiring shelter, can be grown, or if necessary when grown, protected



from cold. They are equally adapted for flowers, or for raising seedlings or cuttings, and they may be used either on the ground surface or partially sunk, either close at the sides, or with a brick left out at intervals—pigeon-holed—to secure more abundant ventilation.

In our previous notice we gave an illustration showing how the tiles could be applied to the growth of wall trees. In this respect, too, an improvement has been effected. Projecting tiles, having both surfaces grooved, are built into the walls at intervals of 18 in. (6 bricks), the groove on the upper side being further from the wall than that on the under side. Along these grooves panes of glass are slid in, so that the face of the glass is made slightly sloping, and thus the branches of the trees, trained along each space, be they those of peach, or vine, or any other plant, are placed in almost as good a position as regards protection as they would be in a glazed house. The chief drawback here is diminished light, from the opaque projections, but this the inventor will doubtless find means to remedy.

For amateurs such aids as these must be especially useful, and we expect to see them very extensively adopted by this class of cultivators. M.

### ALTERNANTHERAS.

HERE can be no doubt that the best kinds of *Alternantheras* will ultimately become very popular as dwarf edging or bedding plants. *A. amabilis* and *A. sessilis* *amœna* are so far the best. Many persons have from time to time complained that they were difficult to manage in winter, and that this would prevent their coming generally into use. This, however, is a mistake. No plant can be more easy to manage if struck early, and allowed to get a little pot-bound. They can then be wintered in any medium house or pit, and a very few cuttings in spring will be found sufficient to make any amount of stock. About six days is the average period at which the cuttings begin to root, and in ten days another crop of cuttings may be got from them, and so on, up to planting-out time, which should not be early. J. F.

### SEASONABLE HINTS FOR AMATEURS.—SEPTEMBER.

No time should now be lost in getting in a good stock of cuttings of all kinds of Bedding plants for next season. Owing to the hot dry weather which prevailed through July, good-sized cuttings of some things have been somewhat difficult to get, but now that they are obtainable, no time should be lost in getting them in. Hardy annuals sown now in pots and kept in frames during the winter, will flower early and well next spring. Carnations and Picotees may still be layered. Dahlias and other tall-growing plants should be kept well tied up, otherwise they may get very much damaged by the stormy winds which so generally prevail in the latter part of this month. The flower-beds should be looked over daily, and all decayed leaves should be removed; and if seeds are not wanted, all decaying flowers should be picked off.

Preparations should be made for the protection of all tender plants out of doors. If the weather should continue mild, and it is not wanted, so much



the better; but it is well to be always prepared, as stormy, boisterous weather sometimes comes on very suddenly in the latter part of this month, and a quantity of valuable plants may soon be seriously damaged for want of a temporary protection. As they are more likely to suffer from wind and rain than from frost, any temporary protection in a sheltered corner will answer very well for some weeks. Any amateur can, with a few stakes, laths, and tarpaulin, soon contrive a suitable place. If ripe grapes are hanging in the greenhouses, the plants should be kept out as long as they can be with safety. Pelargoniums for autumn blooming, that have been grown out of doors, should towards the end of the month be placed under glass; they should have plenty of air, and not be kept too wet: if they have been well grown, they will furnish a fine display for many weeks. As the nights begin to lengthen, the heavy dews that prevail will render watering in the open air less necessary; still, all plants, and particularly hard-wooded plants, must be looked over, to see that they do not suffer for want of water. As long as the weather continues mild, all the more hardy hard-wooded plants will do best in the open air, the heavy dews being beneficial to them.

With the exception of some of the summer Peas, which the hot weather brought in nearly all at once, most kinds of vegetables have done well this season in the kitchen garden. It is now time to take up and store all the early Potatoes, which should be done in dry weather. Onions should also now be taken up, dried carefully, and stored; they keep best when "strapped," and hung up in a dry, cool, airy shed or outhouse. Cabbages for next spring should be planted out not later than the middle of the month, so that they may get well rooted before the short, cold days set in. Bath Cos, Brown Dutch, and Hammersmith Hardy Lettuces should be planted in quantities two or three times during the month, on warm, sheltered borders, for autumn, winter, and spring use. The earthing-up of Celery in dry weather must be regularly attended to. Late Turnips should be thinned and hoed. Peas, Beans, and all other crops past bearing should be cleared off at once, and the ground dug and cropped. Every advantage should be taken of dry weather to destroy weeds, which will now grow rapidly, if not kept well under.

In the Fruit Garden the gathering of all kinds of fruit as they ripen will now require daily attention. When gathered, fruit should be handled as little as possible. Fine fruit is oftentimes much damaged by careless handling. All stone fruit, as also Pears and Apples, are improved in flavour by being laid on a shelf in a dry, warm place for a few days. Apricots are very large and fine this year, and the trees look well and promise well for a crop next year. Plums are a thin crop, but are very fine, and are rather late in ripening. Peaches are abundant and fine here, and will be ripe by the first of the month on the open wall. Pears are plentiful and fine everywhere. Apples are in general thin, and will be small this season. Nuts are very abundant; I don't remember ever seeing the bushes so heavily laden. All runners and all the old outside leaves should be cut clean off

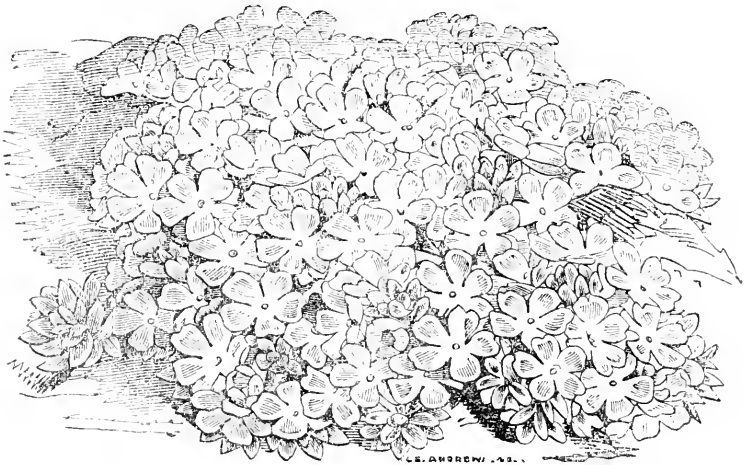
the Strawberry plants, if not already done, and fresh plantations may still be made. I would advise Amateurs, who wish to prolong the Strawberry season, and have fruit as late as possible, to plant the old Elton Pine. I have grown it for the last twenty years, and during that time I have either grown, or seen grown, all the late kinds that have come out; but I have seen not one to equal it as an abundant and late bearer. It is a very hardy variety, an immense cropper, and continues later in bearing than any kind I know. I have exhibited it annually for some years at some of the late autumn shows in this neighbourhood, and it has mostly taken the prize. It has always been admired, and I have sometimes heard more surprise expressed at a dish of these Strawberries than at all the other fruit in the show. I have sometimes shown it well in September, and I have had it fine occasionally in October. The flavour is very acid, which, perhaps, is the principal reason why it is not more generally grown; but the fruit is always highly coloured, and is excellent for preserving.

Stourton.

M. SAUL.

### ANDROSACE PUBESCENS.

THE Androsaces are dwarf tufted-growing herbaceous plants, often of great beauty, as is the case with our present subject, for the figure of which we are indebted to the Messrs. Backhouse and Son, of York, who, it is well known, pay especial attention to the culture and dissemination of these and similar Alpine gems.



*Androsace pubescens* is of this tufted habit, producing short crowded erect stems, covered with imbricating bluntly spatulate leaves, which are ciliated and more or less pubescent with stalked stellate hairs. The flowers, which are produced in spring, are just elevated above the foliage, and are pure white, with a yellow

eye, or sometimes slightly tinted with pink. It was gathered by Messrs. Backhouse's collector, "on the dolomites of the Central Tyrolese Alps, and grows freely on well-drained but rather humid rockwork, rooting deeply into fissures and crevices, and preferring rather sunny situations." All such choice Alpine plants need a pure atmosphere. M.

### THE WHITE CALVILLE APPLE.

I AM sorry to have ruffled the temper of "C. B. S." by the few remarks I made on this Apple in the *FLORIST AND POMOLOGIST* (p. 106). On referring to my short article again, I really can see nothing in it which should be particularly galling to "C. B. S.," or which conflicts with his opinions about the merits or demerits of this fruit. I have grown the White Calville Apple for more than twenty years, both on the walls and on borders, and on all the common stocks, so that my acquaintance with it is not so recent as "C. B. S." supposes. Last year I had a lot of it imported from France on the French Paradise stock, as cordons, and pot plants. I have, therefore, some grounds for giving it a good character, as these little bushes bore well, and I had good specimens of it for the dessert in April and May.

As I never advance any strong opinions about this or any other kind of fruit without putting them to the test of submitting them to experienced judges, I offer to show six specimens of this Apple at one of the Horticultural Society's fruit committee meetings in April or May next year, and challenge "C. B. S." to produce six of any of his favourite late apples, for the committee to compare with them as to soundness and flavour. Perhaps "C. B. S." may think this throwing-down of the glove another "singularly ridiculous evidence of the times," but it is my custom to do so in all cases of disputed opinion in fruit cultivation. Surely "C. B. S.," from his "tight little island" of Jersey, with its favourable soil and temperature, will be enabled to show something in the Apple line, able to compete with my White Calvilles, grown in a midland district in England. Another condition would be highly prized by me, namely, that he should give his name and address, for I am certain we should soon be good friends, as all Pomologists should be, and must be, when in search after truth in fruit-growing.

*Welbeck.*

WILLIAM TILLEY.

### ON THE CULTIVATION OF OSMUNDAS.

BRITISH Ferns in the open air, that is, in the hardy fernery, have long been favourites, and many persons have devoted a spare corner and some attention to their cultivation, though in most instances it has been with but moderate success. *Lastreas*, *Polystichums*, *Athyriums*, and some others are generally managed tolerably well; but the same cannot be said of other genera, several of which will not grow satisfactorily without special treatment. My object is to give an account of the plan I have adopted in cultivating the *Osmundas*

and other analogous ferns, a group of which I know many cultivators have failed to obtain fine healthy well-grown specimens.

About ten years ago my employers requested me to make a hardy fernery, and after looking about for some time for a suitable spot, it was decided to convert an old chalk-pit to this purpose. In forming the collection, it was my desire to obtain all the normal, with the best of the abnormal forms of British Ferns, and particularly the British and hardy Exotic *Osmundas*, with *Struthiopteris* and others of a similar kind.

The ferns were all planted out at the same time, and had an average amount of care bestowed upon them; but, to my great annoyance, the *Osmunda* and other ferns of that class did not grow satisfactorily. They were tried for three or four seasons with no better results. Liberal waterings did not seem to avail much, the water passing off almost immediately, owing to excessive drainage, and the great absorption by the roots of the surrounding trees, so that the plants soon became dry, and looked badly. By means of these failures, however, I ultimately arrived at the method of growing them, which I now proceed to lay before the readers of the *FLORIST AND POMOLOGIST*, for the benefit of those who may have encountered similar difficulties, and who may wish to obviate them.

A piece of ground, of irregular shape, large enough to contain about twenty plants, was staked out, and the mould, or more correctly speaking, the chalk, was removed to the depth of three feet; a bricklayer followed, and put in a floor of three bricks laid on the flat, set in good Portland cement, and over that a layer of plain tiles, the sides being made up to the ground level with a  $4\frac{1}{2}$ -in. wall, well built up in the same kind of cement; this made the whole watertight, and prevented the roots of the surrounding trees from penetrating and robbing the ferns of their moisture. The space was filled up with earth, compounded of good loam, peat, and leaf-mould, in equal proportions, with about one-fifth of good rotten dung added thereto; these ingredients were thoroughly mixed and well trodden in, and then the ferns were planted. In forming this bed, provision was made for the escape of the surplus water, by introducing into the front wall, at about 4 in. from the bottom, a common 3-in. drain-pipe, which communicated with a small tank, about 3 ft. square, sunk into the chalk, so that all waste water became absorbed.

This method proved to be eminently successful, the plants far surpassing in size any I have ever seen under artificial cultivation, and, judging from report, rivalling their growth in their natural habits. Last season I could boast of *Osmunda regalis* with fronds at least 8 ft. in length, *Osmunda spectabilis*  $4\frac{1}{2}$  ft., *Osmunda Claytoniana* 5 ft., *Osmunda cinnamomea* 3 ft., and the beautiful *Osmunda regalis*, var. *crisata*, 3 ft. in length. *Adiantum pedatum* grew from 2 ft. to 3 ft. in height, and others were proportionately fine. The plants were not drawn up by being planted closely together, but were placed at a fair distance apart, and became handsome and noble specimens. Every spring I apply a

dressing of about two inches of rotten dung to the surface, and just cover it with mould for the sake of appearance. This artificial swamp is the admiration of all the visitors here. The plants are always in a healthy and vigorous state, and have none of that half-starved appearance so frequently to be seen.

The result of my experience induces me to believe that a more liberal treatment would not be found objectionable in the cultivation of many more of our native ferns. I intend making the experiment this season, and may possibly find time to make known in this journal what amount of success I may meet with.

In concluding my remarks upon what I may term "growing *Osmundas* under difficulties," I would observe that the points to be principally attended to are (1) a deep water-tight and root-tight tank, the depth of which may, with advantage, be more than in the case I have described; (2) a rich nutritious soil; (3) a reasonable amount of water; and (4) a drain to carry off the surplus.

*Danesbury.*

A. PARSONS.

### GRAPE CULTURE: CALCAREOUS SOIL.

**I**N an ably-written paper which has been published in contemporary periodicals, referring to the kind of soil best suited to the production of Grapes, the author, Mr. Cramb, leads up to the conclusion that calcareous soils are inimical to the production of good Grapes. As I believe that one of the objects of the Royal Horticultural Society in inviting these "congress" papers, was to excite discussion upon them, so that different opinions might be gathered, I make no apology for stating, in reference to Mr. Cramb's deduction, that my experience and observation would not lead me to the same conclusion, since I have for many years been under the impression that a certain portion of calcareous soil in the compost of which vine borders are formed is a very necessary component, and highly conducive to the production of fine well-coloured fruit.

Some years ago, I came into the care of a vinery, which had for some time been in a very unsatisfactory state. On examining the border, I found it to be in a close, compact, and sour condition, more like a heap of manure that had lain for some years and had run together, than a porous, warm vine border, according to my ideas of what such a border should be. The vine is naturally a rock-loving plant, and is not very well adapted to grow in mud, however rich it may be. I therefore had the soil removed to the depth of nearly three feet, and a capital surface dressing it made for the kitchen garden adjacent. I found only a few main roots, and very few fibres, except about the foundation-walls, to which they were clinging pretty extensively, these, I suspect, having been the chief source of nourishment to the vines. Whatever roots I could find above the drainage were raised, and the border was again filled with loam taken from the surface of a common, the substratum of which was pure chalk; it was cut about six inches thick, and having been chopped, but very coarsely so, it was thrown in grass and all, just as it came from the common. A few bones were scattered in

during the process, and also some charcoal, and about an eighth part of half-rotten stable manure, and the border was covered with the same material, when all was filled up. Now, the staple of this border was a calcareous loam. From the following season the vines steadily improved, and a few years later fruit from them took a high position among the prizewinners at the Royal Botanic Gardens. So thoroughly do I believe this to have, in great measure, resulted from the use of calcareous matter, that I should never think of making a new vine border without adding a good quantity of old mortar rubbish to supply the calcareous ingredient, unless I was so situated as to be able to get a good strong loam from a chalky subsoil, in which case other stimulants of a different nature would only be necessary.

I have noticed, in other instances, where vine borders had become worn out, or soured through inefficient drainage, that the roots of the vines appear to have derived their principal support from the mortar and brickwork of the foundations; this would not lead one to suppose that calcareous matter was injurious to them, but rather the contrary, unless, indeed, it was looked upon in the light of Hobson's choice. Be that as it may, I believe that as good grapes may be grown where calcareous matter forms a portion of the border, as where it is entirely wanting. I have for some years had several opportunities of watching the progress of a good many vineries situated on the chalk formation in the neighbourhood of Brighton, and certainly I would not wish for grapes of a better quality and colour than are grown there. The wood also is short-jointed, stocky, and fruitful, and the bunches compact and well-filled,—not over large, certainly, but that is no drawback for general use, since the same weight is produced as when the bunches are fewer and larger. I have always been under the impression that, in this case, the chalk formation was the principal element of success, and with the results I have seen, I must still regard it as a very good "base of operations" to start from.

If I remember aright, when the Golden Hamburgh Grape was first sent out, a prize of £5 was offered the next year for the best fruit, and it was gained by an eminent grower at Brighton, whose vineries are on a chalk foundation, so that I have no doubt that calcareous matter must have entered largely into the composition of the borders.

*Redleaf.*

JOHN COX.

## EXPERIMENTS IN POTATO CULTURE.

IN the following memoranda I have noted the results of two years' culture of eleven kinds of Potatos, of sorts suitable for early produce, grown here, a single row of each, 60 ft. long, having been planted in an open quarter in the kitchen garden:—

1. **MYATT'S PROLIFIC.**—Very large, with smooth skin, and scarcely any eyes. This variety I find the best for forcing, and for the first crop in the open air, being very prolific, as its name implies. Crop:  $3\frac{1}{2}$  pecks to the row.

2. **MINNIN'S EARLY RELIANCE.**—A very fine variety, and very productive.  $3\frac{1}{2}$  pecks to the row.

3. **ROYAL ASH LEAF (Rivers').**—Very large and fine, but not so many tubers to a root as in No. 1. From 2 to 3 pecks to the row.

4. **MONA'S PRIDE.**—A very useful kind, and a good cropper. 3 pecks to the row.

5. **KING OF POTATOS.**—A very fine second-early kidney, and a true model of what a kidney potato should be as regards shape; large, a heavy cropper, and free from eyes. It is a seedling, I believe, either from the Lapstone or Fluke, which it resembles in shape, but it is earlier.  $3\frac{1}{2}$  pecks to the row.

6. **MILKY WHITE.**—A very fine large second-early kidney, truly named "milky white," as it will be seen when cooked to merit all that has been said in its praise; it is very mealy, and of a very fine flavour. The produce of this variety I have no doubt would have been larger if better sets had been used, but the seed was not larger than pigeons' eggs, and I have had only one year's trial with it.  $3\frac{1}{2}$  pecks to the row.

7. **TRANSELL'S SEEDLING.**—A round potato, with very small eyes, very early, and having a beautiful smooth skin; of very fine flavour when cooked. The best round potato for forcing that I have ever grown, and excellent either under glass or in the open air. 3 pecks to the row.

8. **EARLY FRAME.**—A very fine round early potato. 3 pecks to the row.

9. **EARLY DON.**—A very useful kind, and a great cropper; very distinct from Nos. 7 and 8, by its being marked with purple round the eyes. It is a larger cropper than either of the two preceding varieties, but does not possess their other good qualities; of medium size. 5 pecks to the row.

10. **DAINTREE'S SEEDLING.**—A second-early round potato, very productive, but of medium size. 4 pecks to the row.

11. **EARLY OXFORD (Soden's).**—A very useful second-early round potato. Twenty years ago this variety was the earliest round potato grown; but Nos. 7 and 8 are much earlier.  $2\frac{1}{2}$  pecks to the row.

It will, I trust, interest some of your numerous readers to know that there has not been one diseased potato found in these gardens this year, up to the 14th of August. In 1868 I grew the same varieties as this year, except Milky White, and with better results, as we were then taking them up quite ripe in July, and the produce from each kind was from four to five pecks to the row, 60 ft. long. This year they were cut off by frost about the end of April, and consequently they did not afterwards acquire the same degree of vigour they had in 1868.

*Elsenhaw Hall Gardens.*

WILLIAM PLESTER.

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## ROSE HEDGES.

YOU mention at p. 192 a hedge of Roses. The success of Mr. Earley and your notice thereof, may do something towards making popular a most useful addition to many parts of a garden. Many persons, for reasons which are scarcely intelligible, object to see growing vegetables in a garden. Hence for many years I have been compelled to introduce something to shut them out from view, and I have found that roses make the best and the most pleasing of all screens. We have also found the old Noisette Fellenberg by far the best sort to use. It must have a good deal of the monthly or Red China blood in the cross, as it is continually in bloom, and it may be had ten feet high on common hazel stakes—though, of course, stakes of iron are better. If a white hedge rose is wanted, Aimée Vibert is, in good soil, according to my experience, much the best of that colour; it is clear in colour, free in growth,

and an abundant bloomer. Both these do well for cutting. We have never succeeded with hybrids, but that is no proof that they will not do well elsewhere. Neither the Austrian brier nor the Scotch rose is of any use, in my opinion, for they remain so short a time in bloom.

To yield variety, the following plan may be adopted:—Place stakes 10 ft. high and 10 ft. apart along the back of a kitchen-garden border, which may be of any convenient width. From the 10-ft. stakes drop down with rustic trellis or pea stakes to 5 ft. in the centre, making a festoon. Plant to each stake a Hollyhock, and introduce between different colours of Sweet Peas and the Canary-flower mixed, or *Convolvulus major*, or any one of the endless host of beautiful facing-up plants. Against the 10-ft. stakes in certain borders here we have introduced standard pears and apples, to be kept like orange trees. Gourds do extremely well for situations of this kind, and in the case of the heavy-fruited ones, a little bench fixed in front serves to show off the fruit. F.

### THE GENUS *DARWINIA* *alias* *GENETYLLIS*.

FEW subjects of greater interest are met with at our great exhibitions of plants than the species of *Darwinia*, better known to horticulturists under the respective names of *Genetyllis* and *Hedaroma*. They are ever-greens requiring only the shelter of a greenhouse, and their compact bushy habit, and the singular attractiveness of their inflorescence, render them well adapted for being grown into specimen plants. During the present season, *D. macrostegia* has been shown by most cultivators in a state of unwonted beauty, its bright and well-marked colouring being doubtless the result of the thorough ripening of the young growth by the intense heat and light of the summer of 1868.

The inflorescence of these plants is peculiar, and consists not, as at first sight appears, of a drooping bell-shaped corolla, but of a coloured involucre, enclosing a head of small and not very conspicuous flowers. The following are the modern names of the species at present introduced, with their garden synonyms. They all belong to that division of the section *Hedaroma*, which is characterized by a large coloured involucre, and they are all West Australian:—

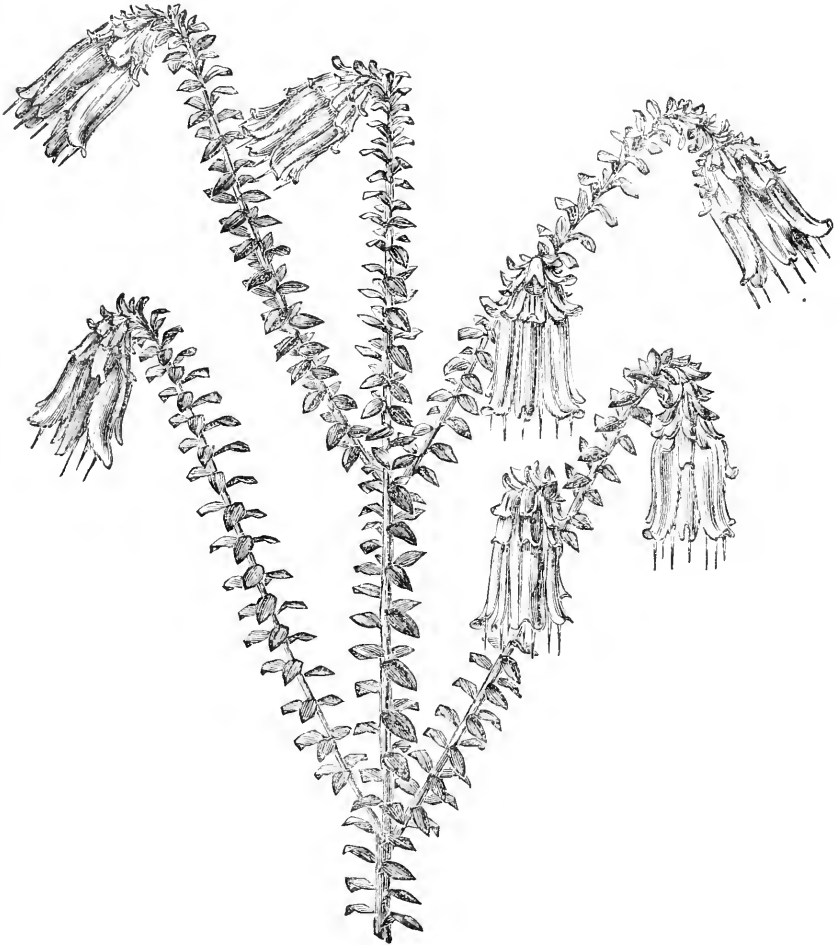
**DARWINIA MACROSTEGIA.** This is the *Genetyllis tulipifera* and the *Hedaroma tuliferum* of gardens, and the true *Genetyllis macrostegia* of Turczaninow. It is the most beautiful of the three garden species, and is known by its entire leaves of an elliptic-oblong outline, and also its entire bracts of an obovate form. These are of a creamy-white colour, freely blotched with crimson, which is very intense in well-grown plants. The involucres are larger than in the two following species. There is a coloured figure in the *Botanical Magazine*, t. 4858.

**DARWINIA HOOKERIANA.** This is the garden *Genetyllis macrostegia* and *G. Hookeriana*. It is somewhat more slender and less twiggy than the former, but



like it, has entire leaves and bracts, the former being linear-oblong, and the latter broadly oblong. The involueral bracts are of a uniform orange-red colour. There is a coloured figure in the *Botanical Magazine*, t. 4860.

*DARWINIA FIMBRIATA*. This is the *Genetyllis fimbriata*, recently introduced by Messrs. Veitch and Sons, and is represented by the annexed woodcut. It is a



dense-growing plant, distinguished at once from the two preceding by having both its oblong-elliptic leaves and its oblong-cuneate involueral bracts ciliated at the edge. The involucres in this species are of a pale uniform pink. There is a coloured figure in the *Botanical Magazine*, t. 5468. M.

## COUPLING LINKS BETWEEN PANELLED WALLS AND FLOWER BEDS.

IT is generally a difficult, it often seems an impossible, art gradually to let down Architecture among Floritecture,—to coin a word. Some do it suddenly, with a rush. They make no attempt at a gradual bringing together of these very distinct forms of beauty. They boldly run up flat masses of flowers, or fat lumpy shrubberies, to chaste architectural lines, and leave them there as evidence of their want of the organ of congruity or fitness. Others strain at effect, by placing the statuesque and picturesque in the most violent contrast. Common bracken, furze, or a thicket of wood, nestle around the outer base of some of our highly artistic garden walls. But the contrast is too violent to be agreeable. On the outer boundary line such a sharp division between nature and art may be permitted; but, as between different portions of the pleasure-ground, or interposed between the main walks and the flower garden, as such screens sometimes are, they have an overstrained effect, offensive to refined taste, and incompatible with true art.

We are rich in subjects that will harmonize, and as it were form stepping-stones between architecture and floritecture. Hollyhocks among herbaceous plants, and all kinds of spiral-headed trees, will harmonize with every form of architectural line, and bridge over the entire distance between walls or houses and groups of trees or shrubs, or mere flat masses of flowers, with the utmost ease. By securing easy gradations, the forms melt, as it were, from the one point into the other.

I will venture to give an example of this mode of planting, which has been a good deal admired. It has at least the merit of cheapness and simplicity, and of being readily adapted or fitted into almost any position. The wall in question constitutes the boundary of a terrace walk, over a hundred yards long and fourteen feet wide. On the other side is a ribbon border running the entire length, and backing up against a portion of the chief range of glass. The wall is 18 in. thick, 3½ ft. high, and set off with pillars 2 ft. square, at distances of 20 ft. apart. At each end of the terrace the piers are run up on each side to a height of 13 ft., and surmounted by handsome unplanted vases. The centre space across the ends is filled in with a chaste pattern of blue and gold iron-work, pierced through at each end with gates to match. Half-way in this length the wall is likewise pierced by a pair of gates of the same pattern, but only of the height of the wall. These lead into or across the centre of a large ornamental flower garden, with a handsome stone fountain as the attraction in a line with the gates. The pillars of the wall are each furnished with rather flat-formed vases, filled with scarlet Pelargoniums. The flower garden stretches away about forty yards from this wall; then follows a lofty double arch of roses, and at a higher elevation, a second terrace walk, over 300 yards long

and 13 ft. wide, furnished with handsome stone seats at both ends. The arches run down the ends of the garden in single file, and also run across the centre, and round the fountain. The flower beds are large, and nearly flat, requiring from 500 to 1,000 plants apiece. The massiveness of the wall seemed to lie like a dead weight upon such broad sheets of colouring, and the problem was to adopt some expedient to lighten the wall and the garden at the same time, as well as to link the two together, or enable them to meet in congruous harmony. The puzzle seemed to be how to bring the wall down to the garden, or the garden up to the wall, without a painful hitch between them. The difficulty was increased in this instance, as the wall itself was too squat for its thickness. I therefore began, as it were, by virtually raising the wall. Its heavy line of coping and vases was cut into elegant shreds by running up spiral forms to a height of 10 ft. or 12 ft. within a few feet of its base. This had a magical influence upon the wall, uplifting as it were a huge load from its mighty back. But having thus, as it were, trebled the height of the wall with a line of spiral trees, the next step was to lower it gracefully into the flower-beds. This was done by the use of other trees and flowers in the following manner:—The first trees were planted at a distance of  $4\frac{1}{2}$  ft. from the wall in the centre of every panel, an upright cypress and a rose being used alternately. The winter of '59-'60 destroyed most of the cypresses, and they were at once replaced with common yews cut into shape. These have done so well, that already they measure about 4 ft. across, and average from 10 ft. to 14 ft. in height—dense masses of sombre beauty. The roses have reached nearly to the same height. Opposite each rose tree, at a distance of 15 ft. from the wall, an Irish yew of slender build, and from 4 ft. to 6 ft. in height, is placed. Then follows a grass walk 14 ft. wide, and on the opposite side, with their feet in the flowers, a row of golden Irish yews nod across the ample sward at their green brothers. The garden is pierced lengthways by a green division of similar width, and this is lined on each side with a row of stately sentinels of Irish yew, of from 10 ft. to 14 ft. in height, which gave a sort of architectural character to the whole, in harmony with the water, the fountain, massive stone walls, and the mansion within sight, and cut asunder the rose arch in every conceivable and inconceivable way, with striking and novel effects.

Returning to the wall, the large trees are planted near the outside of a series of semicircular spaces of  $4\frac{1}{2}$  ft. radius, and nearly 10 ft. long. On each of these spaces, between the trees and the wall, five strong choice double Hollyhocks are planted. By dint of constant manuring, in a solid and liquid form, these grow strongly and flower profusely, and, of course, impart the idea of an unbroken row of beauty from either end. They are likewise effective from any point, and leave the pillars and vases quite free to display their charms between them. In the corner space, formed by the pyramidal trees and the line of Hollyhocks, a single plant on each side, of Fuchsia, Heliotrope, or Pelargonium, has generally

been placed, and a few seeds of Mignonette thrown in for perfume, have covered the ground, and finished the semicircles—no, not yet, for they are all edged with a broad band of the Cerastium, and nothing could prove more airy and charming than this ‘snow in summer,’ enwreathing the bottoms of sombre yews, or climbing up among tender masses of green rose leaves, or making the flowers blush a deeper crimson, as it twines its tiny arms around them in a close embrace. The snowy white projections are now linked together by a narrow band of *Viola cornuta*, carried along the base of the wall to the pillars, while opposite the latter, the two ends of the Violets are tied together in a true lovers’ knot, with a projecting bow of the Golden Feather. And thus the bottom of the wall is fringed with beauty.

There is also another form of embellishment introduced between the two lines of trees. At a distance of 11 ft. from the wall, opposite every vase-capped pillar, the centre of a row of circles is placed. These circles are swept with a radius of 4½ ft., are considerably raised in the middle, and are each planted with one variety of plant, generally all *Pelargoniums*. The intention alike of the form and mode of planting, though the weather has not always permitted of its being realized, is to make each bed a uniform posy, to resemble one huge, flat, cone-shaped plant.

Beginning at the wall, then, we have, first, the lace fringe at its base: next, the hollyhocks; 3rd, the spiral yews and roses alternating prettily; 4th, the circular flower-beds; 5th, the row of Irish yews; 6th, the straight greensward; 7th, the golden yews: and finally, the flower beds. A series of ups and downs, probably my readers will say; but all united by the one commanding purpose of bringing solid heavy masses of masonry to glide through a series of slightly graduating expedients, until the wall and the garden meet, to the mutual advantage of both, and the improvement of each.

*Hardwicke House.*

D. T. FISH, F.R.H.S.

### FIG-CULTURE IN FRANCE.

**F**IGS and Fig-culture seem to be exciting more attention in this country than formerly, and it is well that they do so, for no fruit can be more wholesome or delicious than these, when fully grown and well ripened. The pot cultivation of the Fig tree, as practised so successfully at Chiswick, has already occupied some space in the *FLORIST AND POMOLOGIST*, and we now propose to glean from Mr. Robinson’s recent book\* some particulars of Fig-culture as carried on in France, according to the system of M. Dubreuil.

In our own southern counties, *e.g.*, at Arundel, Shoreham, and the Isle of

\* *The Parks, Gardens, and Promenades of Paris, Described and Considered in Relation to the Wants of Our Own Cities, and of Public and Private Gardens.* By W. Robinson, F.L.S. With upwards of 400 Illustrations. London: Murray. A comprehensive and highly suggestive account of French Gardening, especially in respect to those features which bear most intimately on our own practice. It should occupy a place in every garden library.

Thanet, the Fig succeeds well as a standard tree. It is not, however, in this form that it is most successfully treated around Paris, for the frosts are severe enough to leave it little chance of escaping destruction. The plan adopted to protect the trees and fruit is to collect the branches into three or four bundles, and

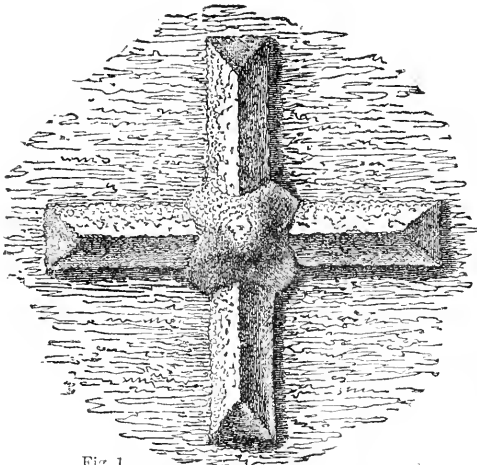


Fig. 1.

in this form to bury them in a trench beneath little banks or ridges of earth, the crown of the root being also protected in a similar way. Such a plan might very well be adopted in favourable localities in England. The plan admits of being carried out on sloping ground, with a very slight modification, and in this way our railway embankments having a southern exposure might, in many instances, be utilized.

In our climate, as in that of France, the Fig, as is well known, produces at the latter part of the season incipient fruit, which form the first crop of the following year; while in spring it produces other fruit, which get matured by the end of summer in very favourable seasons only. The former, called the first crop, or by the French *figues-fleurs*, are the most important, and it is these which the French system of culture is intended to secure; while the others, the second crop, or *figues d'automne*, are seldom of much importance, and are hence, for the most part, unheeded.



Fig. 2.

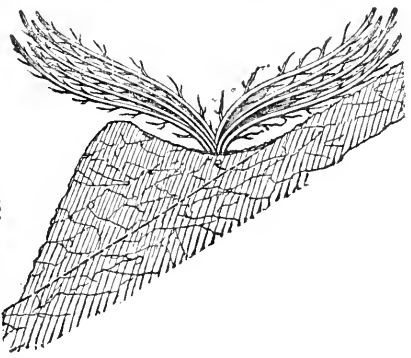


Fig. 3.

The Fig trees are planted at five or six yards apart, in lines four yards apart, the holes being of considerable size, and filled with well-manured soil. Layers are used, and the roots are planted rather deep, the surface of the hole being at least a foot below the general level. During two summers the plants are allowed to grow unmolested, and in winter the branches are covered with earth to the thickness of a foot,

as a protection from frost, in the manner described below. In the third spring after planting, the tree is cut at 6 in. or 8 in. from the ground, to induce young shoots, which are to form the principal branches of the tree. These grow on during summer, and in autumn are covered up with earth. A dry day is chosen, when the soil is friable. All weeds and leaves, as well as the half-grown autumn figs, indeed all matters tending to induce decay, are removed, and the branches are divided into four equal bundles, which are tied together with string. A trench is then dug for each bundle, which is covered to the depth of 8 in., a small cone of earth being piled over the roots. Fig. 1 shows the appearance presented after the tree has been covered up; fig. 2 shows the general horizontal direction given to the tree by this mode of treatment, the branches being usually collected into four bunches, which are laid out in the form of a cross. The same kind of arrangement is equally applicable to plants on sloping banks, a basin of earth being formed around the stem to retain water, and the bundles of branches being buried in an up-hill direction. This is shown in fig 3.

Towards the end of February, the buried trees are uncovered, a damp, warm day being chosen. The earlier this can be safely done the more forward will be the crop. Sometimes half the tree is uncovered at the end of February, and half at the end of March, by which plan there is a chance of securing a better average crop. After uncovering, the branches are separated to equal distances, those which are too near the ground being held up by means of forked sticks. The young shoots growing from the stock are henceforward carefully cut off. This brings the operations to the end of the fifth year.

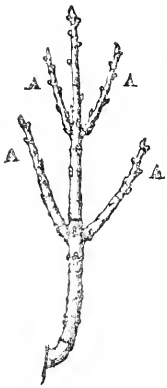


Fig. 4.

In the following spring, as soon as the uncovered trees show signs of coming into leaf, disbudding is had recourse to. The older branches present the appearance of fig. 4, fig. 5 being an enlargement of fig. 4 A. As soon as growth commences, the terminal buds of all the young shoots are nipped off, in order to favour the development of the wood buds at the base, and to encourage the young figs already beginning to appear (fig. 5 A). About half the lateral wood buds, those nearest the young figs, are also rubbed off (fig. 5 B). Two buds are always left near the base of each branch (fig. 5 D), and one towards the

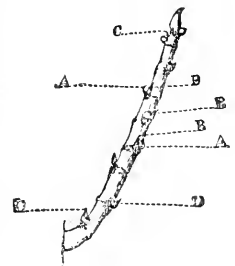


Fig. 5.

tip (fig. 5 c), to draw up the sap. The end shoot of each branch is treated in a similar manner, buds being retained to form side shoots at about a foot apart. When the young shoots attain the length of about two inches, some of those on the lateral branches and on the end branch are nipped off, mild weather being chosen for the operation. On the former, the shoot nearest the base of the

branch (fig. 6 c) is allowed to remain, so as to replace the one which bears the fruit of the year. On the latter, a bud near the tip is retained to prolong the branch, as well as some lateral ones to form new fruit branches the following year. The shoots are spaced out, so that they may receive an equal amount of sunshine, and not injure the fruit by rubbing. When the proper number of branches is obtained, all new shoots are removed.

After the crop is gathered, the fruiting branches present the appearances shown in fig. 6 B and 7 B, the former representing the aspect of the branch when only the first crop is taken, the latter its appearance if the shoots have been retained for autumn figs. This should only be done with the more vigorous trees, as the autumn crop weakens the growth, and, moreover, checks the production of the early fruit the following season. When, however, it is done, two shoots are



Fig. 6.

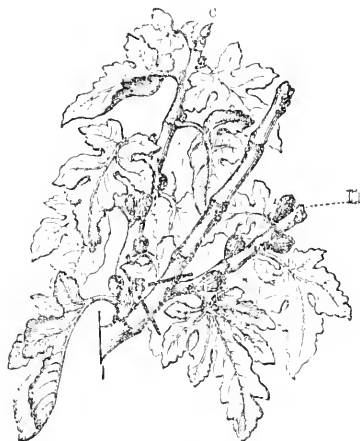


Fig. 7.

allowed to grow as shown in fig. 7 the one (c) corresponding with c in fig. 6, the other (d) being that which bears the late fruit. In order to force the latter to progress more rapidly, the tip of the shoot is pinched out when it has attained a length of about 5 in. Towards the end of August, a dry day is chosen for clearing the trees. The shoots that have borne fruit are cut off as indicated in the figures, and useless shoots are taken away just above the lowest eye, which, if it should develop the succeeding year, is disbudded in its turn. The wounds caused by pruning are covered with grafting wax. Similar treatment is adopted in succeeding years, the trees, of course, increasing in size.

The annual earthing-up induces a horizontal direction of growth at about a foot or eighteen inches from the ground, which is advantageous to the trees, as in this position they are not only warmer, but the sap is more equally distributed. The trees begin to bear at six years old, are in full perfection at ten years, and last a long time; but the old stems wear out in from twelve to fifteen years, and

require renewal, for which purpose a sufficient number of shoots to replace those to be cut away are retained at the time of disbudding. The soil is dug up annually in spring, and manured every three years. The trees are also well watered several times during the summer. M.

### NEW FLORISTS' FLOWERS.

AT a great gathering like the Royal Horticultural Society's Exhibition at Manchester, on August 19, and five following days, it was only natural to look for a large contribution of new Florists' Flowers. They were there, sure enough, but very little of really good quality. A First-Class Certificate was awarded to Messrs. Downie, Laird, and Laing for gold and bronze zonal *Pelargonium Impératrice Eugénie*, a finely-coloured variety, with a golden leaf-ground, and regular reddish-chocolate zone. The same award was made to Mr. Charles Turner for his fine new *Picotees—Admiration*, a remarkably heavy rosy-purple-edged flower of the finest quality and fullest substance, the petals large, stout, and regularly marked; and *Miss Turner*, a medium light rose-edged flower, pure in the ground, and evenly marked. Mr. C. J. Perry, Castle Bromwich, Birmingham, had a stand of fine new *Verbenas*; of these *Rising Sun* and *Butterfly* received First-Class Certificates; the former is a remarkably striking flower, being of a glowing salmon-red ground colour, with small light eye surrounded by a rich deep maroon ring, and of fine substance and form; the latter is of a warm flesh-colour, with a striking crimson ring round a pale eye. This variety is also large in size, and of great beauty.

At the meeting of the Floral Committee at South Kensington, on August 3, Mr. Perry received First-Class Certificates for *Verbena R. H. Vertegans*, a deep-shaded purple, novel and fine; for *Rev. Joshua Dix*, blush, with a deep rose centre, also good; for *Thomas Hyatt*, clear glowing red, shaded heavily with dark around a pale eye; and for *Joseph Saunders*, bright deep red, with a showy lemon eye. All these are very fine, and decided acquisitions. Mr. W. Chater, Saffron Walden, was fortunate enough to obtain five First-Class Certificates for new *Hollyhocks*, the following being the varieties:—*Carus Chater*, dark crimson, flowers large and very full; *Constance*, pale flesh, very fine; *Leah*, a shaded yellow flower, of good size and full substance; *Junia*, pale flesh-colour, tinted with soft pink; and *Walden Queen*, pale rose, a fine exhibition flower.

A somewhat distinct and well-coloured variegated zonal *Pelargonium*, named *Macbeth*, from Messrs. Bell and Thorpe, Stratford-on-Avon, received a First-Class Certificate, and similar awards were made to the following bedding *Pelargoniums*: *Sydney Dunstan*, a handsome nosegay variety, with large trusses of brilliant scarlet flowers, from Mr. J. George, Putney Heath; *Claudius*, another nosegay variety, with immense trusses of pale rosy-pink flowers, in the way of Amy Hogg; *Soleil*, also a nosegay, with showy trusses of pale bright scarlet



flowers, both from Mr. G. Smith, Islington; and *Gustave de Rothschild*, a dark pink nosegay variety, from Mr. Tirebuck, of Luton, a variety of some promise as a bedder. The same award was made to a very fine zonal variety, named *Coleshill*, with bright scarlet flowers of fine quality, shown by Mr. Eckford, gardener to Earl Radnor, Coleshill. A First-Class Certificate was also awarded to Messrs. Bell and Thorpe, Stratford-on-Avon, for single *Petunia Beauty*, the flowers of a pale lilac ground colour, with the throat, radiating bars, and veins purple. The flower is of good form. R. D.

### MONTHLY CHRONICLE.

**F**ROM the tabulated returns as to the state of the Fruit Crops obtained from various parts of the country, and recently published in the *Gardeners' Chronicle*, we learn that as a whole there is a considerable deficiency, caused by the long-continued cold winds which prevailed during the blooming season, and the remarkably hot weather which supervened for a short period, and led to over-excitement of the trees. The general results indicated by the returns in question are these:—Apricots much below average; some of the best crops in Scotland and the north. Apples under average everywhere, except in Lancashire and Cheshire, and in some parts of Wales. Pears everywhere over average, except in the western counties. Plums generally below average; Damsons very plentiful in some of the northern and midland counties. Strawberries variable, but generally deficient, except in the north. Cherries, a fair crop everywhere, except in Kent, Morellos being plentiful and good. Peaches and Nectarines below average almost everywhere, some good crops being, however, reported from Lincolnshire, Nottinghamshire, and Yorkshire. Figs in some places good, *e.g.*, Yorkshire, Leicestershire, Oxfordshire, Worcestershire, Suffolk, Herts, but generally below average. Small fruits abundant almost everywhere. Nuts extraordinarily plentiful in most places, but Walnuts a light crop.

— THE Council of the Royal Horticultural Society has announced its intention of modifying the meetings and exhibitions of next season, by strengthening the fortnightly meetings, and abandoning separate shows, not, however, abandoning the shows themselves, but by this compression reducing the number of meetings. The meeting day is to be Wednesday instead of Tuesday, as being a better day for securing an attendance of visitors. All the meeting days are to be show days of a major or minor order, but no separate shows except the provincial show will be held. The days fixed are the third Wednesday in January and February, the first and third Wednesdays in each month from March to September inclusive, and the first Wednesday in October, November, and December. At each meeting or show some characteristic flower or fruit in season will be selected as the special feature and the subject of special prizes, while other reasonable objects will be grouped around it sufficient in quantity to make up a larger or a smaller exhibition. These arrangements are intended to fit in with the scheme of International Exhibitions which has been announced by Her Majesty's Commissioners for the Exhibition of 1851.

— THE Seed Adulteration Bill has become law, and will come into operation on May 1, 1870. This Bill has been promoted and carried to a successful issue by the Seed Trade itself, the members of which are now organizing an Association the more effectually to carry out its provisions.

— THE collection of Grapes, from Dalkeith, illustrating the effects of the application of Bottom-heat to the roots of the vines, was one of the most interesting exhibitions at the recent Manchester Show. The collection consisted of White Frontignan, Grizzly Frontignan, Muscat of Alexandria, Reeves' Muscadine, Rivers' Muscadine, Chasselas Napoleon, Black Alicante, and Royal Muscadine. They had all been

cut from one house; had all been planted in May, 1868, chiefly from eyes of that year; and had all been subjected to a bottom-heat from piping placed under pavement, varying from 90° to 105°, except in the case of one vine, a Royal Muscadine, which had had no bottom-heat whatever. This latter variety, which, under similar conditions, would have preceded the Muscat in ripening by at least two months, was under these conditions not so much matured as were the Muscats grown in the same atmosphere, but with bottom-heat. This is a striking fact in support of the advocates of bottom-heat for forced vines.

— **WE** note that the Royal Horticultural Society's Manchester Show has proved more successful in a financial point of view than was at one time anticipated, the receipts being about £1,900, and the expenses about £1,500. This amount would probably have been doubled had the society received that countenance and support from Royalty which it was led to expect, and which, indeed, was more or less publicly announced. The show itself was one of considerable extent, occupying five long tents and one large circular tent; it was also of fair average quality—good in some points, vegetables especially; the stove and greenhouse plants being, moreover, generally good, as were also the Conifers, and some of the fruit. Amongst the gems of the show were Mr. Holo's Roses, Mr. Dixon's *Anætochilus*, Mr. Baines's *Sarracenia*s, and Mr. Stevenson's *Alocasia Jenningsii*. The Horticultural Congress was a new and very successful feature of this meeting.

— **CUCUMBERS** for Exhibition should be straight, evenly swelled close up to both ends, smooth or free from ribs on the surface, and in length about nine or ten times the diameter. Generally, dark-green varieties, with plenty of bloom and black spines, are preferred, though as the best of all Cucumbers belong to the smooth-skinned *Syon House* breed, these latter points involve sacrificing quality to appearance. Hence at all exhibitions there should be separate classes for the different races of Cucumbers.

— **THE Selby Flower and Fruit Gatherer**, introduced by Messrs. Dick Radclyffe and Co., of High Holborn, is a handy and ingenious form of flower-scissors. By means of a spring clamp attached to the cutting blade, the stalk of a flower as soon as severed is caught and retained firmly till purposely released. It will be a most convenient implement for ladies. It is stated to be able to cut and retain bunches of fruit to the weight of 4 lb., or, indeed, up to 7 lb.

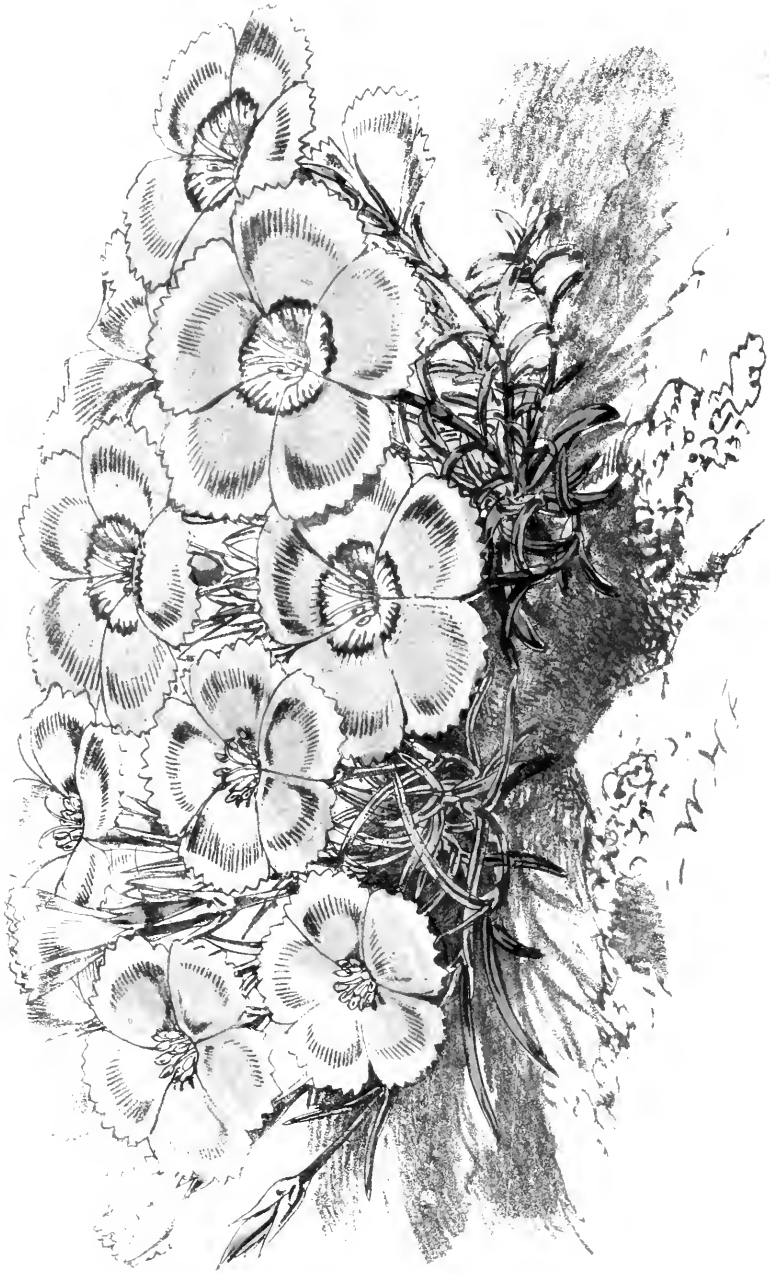
### Obituary.

— **MR. OSMAN RHODES**, of the Crystal Nursery, Sydenham Park, died on the 8th of July, aged 40. Mr. Rhodes had been well known for the last 20 years as a first-class plant-grower and exhibitor. He had also successfully turned his attention to the improvement of hot-water apparatus.

— **MR. JOHN B. WHITING** died on the 19th of July, at the residence of his son, near Hereford. For nearly 30 years he was gardener at the Deepdene, Dorking, which position he had only quite recently resigned. He was not only esteemed for his personal worth, but also for his eminence in his profession, and for his sound, sensible contributions to the gardening journals. In his younger days he was employed in the gardens of the Horticultural Society at Chiswick, and he retained to the last his connection with that Society by his services as a member of the Fruit Committee.

— **CHARLES B. WARNER, Esq.**, died at his residence at Hoddesdon on the 27th of July. Mr. Warner was formerly one of the most successful growers and exhibitors of Orchids, but for some years past he had given up growing for exhibition, and confined himself to keeping up a select collection for his private gratification. At the period above alluded to, he was an active Fellow of the Royal Horticultural Society, and for some years occupied a seat at its Council-board. He was an earnest supporter of cottagers' shows for fruit and vegetables, and in this, and many ways, so brought his influence to bear on those around him, that his loss will be severely felt.





*Dianthus neglectus.*

## DIANTHUS NEGLECTUS AND ALPINUS.

WITH AN ILLUSTRATION.

THE subject of the annexed illustration, *DIANTHUS NEGLECTUS* (fig. 1.), is one of the loveliest of the *Dianthus* family. It combines the dwarf sturdy character and fine form of the handsome but rather fastidious Alpine pink, with the vigorous constitution of the common or the maiden pink, and forms tufts which resemble short wiry grass. The leaves are slightly glaucous, concave, pointed, and, except in vigorous specimens, from half an inch to an inch long, the lower ones on the stems being somewhat longer. The flower-stems rise from one to four inches high, according to the position and soil in which the plants are grown, are freely produced, and each bear a solitary flower, or rarely two, about an inch, or, in vigorous specimens, an inch and a quarter across, and of the purest, deepest, and most brilliant rose, the petals being quite level and firm-looking, with the outer margins slightly notched. In a wild state, and in poor sandy earth on well exposed rock-work, specimens may be seen in perfect bloom and robust health at one inch and a half high, and even less; but at lower altitudes and in a deeper soil, it is sometimes to be found three, four, or five inches high. In rich deep sandy soil in gardens it will also attain this height, or a little more, perhaps at some slight loss of neatness and compactness. It is surpassed by no Alpine plant in vividness and purity of colour. It is so dwarf in habit, and has flowers so large, that tufts of it might at first sight be taken for the Alpine Pink, *DIANTHUS ALPINUS* (fig. 2), but its narrow and sharply-pointed grass-like leaves immediately distinguish it from that species. The colour is also more vivid than in *D. alpinus*. It is happily very easily grown, unlike some of the other Alpine *Dianthus*es flourishing freely in very sandy loam, either in pots or on rockwork. It roots through the bottoms of the pots as freely as any weed, is perfectly hardy, and a very gem either for chinks or level spots on rock-work, in all parts of these islands. The fact that it is so very free renders it useful for the front margins of mixed borders in fine sandy soil, but when planted thus, it should be surrounded by a few stones half plunged in the ground, to prevent evaporation and guard it from injury. It is a native of the highest Alps of Dauphiny and the Pyrenees, Switzerland, and Italy, and is easily increased by division, and by seed. It was introduced to cultivation by Messrs. Backhouse, of York, from whom the annexed figures are derived. W. R.

## THE STIRLING CASTLE PEACH.

RAISED a few years ago at Dunmore, by Mr. Carmichael, now the Royal gardener at Sandringham, this Peach was sent out by Messrs. Osborn and Sons, of Fulham, having for its character "an improvement of the Royal George." Until this season I have never had an opportunity of seeing the Stirling Castle in such condition as to enable me to form an opinion

of its merits, and the sample I send is that which encourages me to speak in its favour. The tree from which the sample was gathered is one of the batch first sent out; it is planted on the back wall of a Peach case, and is 8 ft. from the front glass. The fruit are not sent as a sample of weight (none of them are 8 oz.), but as a fair sample of a fair crop on a young tree. As regards flavour, my impression is that it is not so juicy and sprightly as the Royal George, and the flesh is rather inclined to eat woolly.\* In these particulars, however, it may improve as the fruit becomes better developed from older trees. My experience of Peach trees teaches me to believe that the older the trees the larger the fruit, so that in this belief, my intention is to allow the Stirling Castle plenty of room to extend and fully develop itself.

My mode of training is that known as Seymour's system, and to this system I mean to adhere until I am convinced of a better. Of all trees under a gardener's care I believe the training and cropping of the Peach to be least understood. I have initiated all my young men into this system; it is easily understood, and when once they know it I have no further trouble with my trees. Several of my young men, after having mastered this system, have told me that now they have a rule to work by, whereas formerly they trained without a rule. If Mr. Carmichael should succeed in raising another peach equally good, I should be inclined to ask him to name it the "Abbey Craig," on the summit of which now stands the abortive monument to Wallace.

*Combe Abbey Gardens.*

WM. MILLER.

### NOTES ON FLOWER-BEDS.

IT has recently occurred to me that if some of the contributors to the FLORIST AND POMOLOGIST were to give a description of four or six of the most satisfactory of their flower-beds, as they were arranged during the past summer, something would be gained by all lovers of the flower garden. I think I may say that there are very few persons who are not interested in a good arrangement of the flowers in their gardens. These notes should be furnished during the winter months, so as to be made use of when the bedding-out time of 1870 comes round. The six flower-beds I have described below are selected out of about forty, which were filled with bedding plants this season:—

1. Pelargonium Amy Hogg mixed with Madame Vaucher. The beautiful purple rose tint of the former blends charmingly with the latter, which is pure white. Amy Hogg is rather the stronger grower, but this little difficulty may be overcome by planting old plants of Madame Vaucher and young plants of Amy Hogg. What I should recommend, however, and what I intend next season to adopt, is to plant the centre of the bed with Amy Hogg, and to use Madame Vaucher at the outside as an edging.

2. Pelargonium Stella, mixed with variegated Alyssum. This bed is of the same shape and size as No. 1, and is intended in some degree to correspond with it. The effect of the arrangement is very good, the large, fine heads of Pelargonium bloom rising above its companion, the variegated Alyssum, and having a very charming effect.

\* Our opinion exactly coincides with this. The fruit sent were good examples, 9½ in. in circumference, very deeply coloured, the flesh also much stained, but rather stringy.—ED.

3. *Pelargonium Mrs. Pollock* in the centre, with one row of *Viola cornuta*, and edged with *Cerastium tomentosum*. Next season I intend to plant *Verbena Purple King* instead of the *Viola*, as it is not to be depended on through a dry summer. This *Violet* is very beautiful in the early part of the season, and in the wet, dripping summer of 1867 it was the best thing in the garden here, but this year it has been quite a failure.

4. A four-lobed bed. This is planted with *Perilla nankinensis* in a square in the centre, the four rounded lobes being filled with *Pelargonium Countess of Warwick*. Around the whole runs a single line of *Pelargonium Baron Ricasoli*, a dwarf horseshoe-leaved variety, with bright scarlet flowers, while for an edging we use *Cerastium tomentosum*. This is, without doubt, the best white edging plant we have, if properly managed. Our own method is to keep it cut close with the hand shears, and to tread it down to the ground when quite dry, which with us prevents it from damping off.

5. A nearly square bed, 10 ft. long by 6 ft. wide. The centre is planted with *Verbena Purple King*, in the shape of a diamond, so arranged that the *Verbena* comes in a point to both sides and both ends of the bed. The corners are filled with variegated *Alyssum*. To those who like a little novelty, I can strongly recommend this arrangement, as the contrast of the purple *Verbena* with the white *Alyssum* is very good.

6. A shaded bed, 10 ft. long by 5 ft. wide, with square ends. It is planted in straight lines, the dark *Perilla nankinensis* in the centre, with one row on each side of *Centaurea candidissima*, one of the most beautiful of white-leaved plants we have. The outside row is *Amaranthus melancholicus ruber*, a deep red-foliaged plant. Thus not a flower is seen on this bed all the summer, but there is not one in these gardens which, during the present season, has been so much admired as this, and which is entirely filled with plants having coloured leaves. We have other arrangements to correspond with this, but the effect is not so good.

*Elsenhain Hall Gardens.*

WILLIAM PLESTER.

## PINE-APPLE CULTURE.

THE culture of the Pine-apple, the king of fruits, has, within the last few years, undergone a marked change for the better. For very many years the same unvaried routine, which marked the practice of Sir Mathew Dickens, in the seventeenth century, had, with much pertinacity, been followed, until some of our expert and successful cultivators broke through the arbitrary laws which time had sanctioned, and brought the period necessary for rooting, growing, and fruiting the well-formed sucker within the compass of a few months, instead of years.

I am not about to enter into minute details concerning the best mode of culture, for there can be no doubt, all other matters being favourable, that the quickest way of producing fruit of good quality is the best; and those who well understand the laws which govern the practice needed in the production of a healthy vegetation under an artificial regimen, need have no misgivings concerning growing this fruit successfully, in so far as size is concerned, if proper means exist, and the necessary attention is paid.

The present system, or what I may term the hasty modern way, of growing this fruit, however, has much in it that is antagonistic to good flavour, and what can be more insipid than a flavourless Pine-apple? It is regarding this subject of flavour that I wish more particularly to speak. So much has the quality of imported Pine-apples improved of late, that this subject will become a matter of some moment to the growers for market, who are already somewhat on the increase, and who need "look to their laurels." It seems superfluous to remark

here that the quicker fine fruit can be produced, so much the better in a marketable point of view, but the question really at issue, and the one likely, I fear, to act antagonistic to the producer in the end, is :—Whether the independent buyer will, for the sake of display alone, continue to purchase these fruits at a high price, however much they may grace a dessert, when it is found that there is very little enjoyment to be derived from their consumption.

Upon more than one occasion lately this question has been put to me :—What makes my plate overflow with juice from the Pine-apple when cut, while the flavour is so inferior to what it used to be? And these inquiries have really suggested the few remarks I am now making. The very fact that the Pine-apple belongs to the much enduring order of Bromeliads, fully explains how it is that it may readily be made to “fall in” with almost any mode of treatment. It is capable of subsisting to a very great extent upon the amount of atmospheric support the leaf-surface alone can absorb. Like the *Æchmea* and its other allies, it may be severed from the root, and be tossed to and fro for an indefinite period of time with impunity, so absorbent and retentive is it. With these facts before us, the road to the attainment of good size and perfect flavour, is made tolerably plain.

To dispense with the subject of over-potting, or any argument relating thereto, I may say at once that large pots are positively detrimental to fine fruit, as regards both size and flavour. Once the suckers or crown cuttings are potted, the primary thing to be attended to is the production of roots in as great a profusion as possible; which is attainable by affording a brisk bottom-heat, with but moderate atmospheric heat or humidity. This is opposed to the vapoury and excessive aerial warmth which some growers maintain at such a time. With the plentiful roots thus obtained, and by checking somewhat the superabundance of the superstructure or surface growth, a fair start may be assured, the plant being perfect in its organization. Plants which are thus self-supporting, are much better and more capable of withstanding fluctuations of heat, air, sunshine, and cloudy weather, than others which have been pushed on and forced to make a fine surface show in an extremely high temperature, shaded constantly, and often reeking with vapour, while they possess a questionable amount of roots.

During the next stage, the plants being now in the heigh-day of their growth, I would have resort to just that sort of treatment which I have hitherto condemned, save in this, that more air should be given, and less shading, the plants being duly prepared for this. In lieu of a faultless green surface growth, “frim.” and somewhat watery, this treatment would impart to the leaves a better-ripened fibre, and give to them just that amount of native bronze which denotes a capacity for yielding good flavour. During the actual flowering period, yet more air and light may also be permitted. During the next stage, actual enlargement is to be encouraged by abundant supplies of heat, moisture, light, and air, until the preliminary ripening stage is attained, when the fullest exposure may be afforded without any fear of injurious consequences to the leaf-surface, such as would be



likely to befall plants treated more tenderly, and supplied to excess with heat, shading, and moisture. I ask the opinion of more able practitioners on this subject. The Pine-apple seldom receives notice in our garden literature.

*Digswell.*

WILLIAM EARLEY.

### MISTLETO ROOTS.

MENTIONED in these pages, some time ago, that Mistleto cannot be propagated except from seed introduced on the bark of the foster tree; but I find that in some localities where apple trees are much infested with the parasite, there is a belief that it is produced from the effects of its juice, without seed. This, however, is contrary to the opinion that the *alburnum*, or pulpy matter in the rind of trees, serves to keep them true to their kinds. On giving further observation to this subject, I found that Mistleto certainly sprouts from the bark of trees without the intervention of seed. Such instances, however, are merely sprouts or germs from the roots of established "mistleto boughs," which creep or grow concealed under the bark of the trees that support them, and of which, on cutting the bark near the Mistleto stem, the roots may be seen appearing like hairs, or when slightly magnified somewhat like common pins. These observations were made on apple bark, from which a Mistleto shoot was broken off last season. The scar or wound resulting from this accident is now surrounded with the germs of Mistleto, even beyond the scar.

Previous to that, I had examined stems of Thorn trees on which the young parasite was seen sprouting in all manner of ways, and upon parts where birds could not rest to clean their beaks of the viscid matter after they had eaten the berries,—one means by which Mistleto is commonly supposed to be propagated. Nor was it done from rubbing the berries which contain the seed upon the stems of the trees. Having seen that the parasite propagates itself from its roots in the bark, I may suggest that perhaps if pieces of bark which contain such germs were inoculated or budded on the same kinds of trees from which they were taken in spring, Mistleto might be introduced into new localities, especially in the North, where it is not found, though, being very hardy, the climate cannot be a hindrance to its growth. The process of growing Mistleto from seed is very slow, the germs being hardly visible until after the second season, though after that they quickly form bristly tops.

*Cossey Park, Norwich.*

J. WIGHTON.

### DAVALLIA HEMIPTERA.

FEW more elegant basket ferns than this have been introduced to our hothouses, and none more suitable for this mode of cultivation. We owe its introduction to the Messrs. Veitch and Sons, of Chelsea, who have obligingly furnished us with the annexed illustration, which scarcely shows the segments sufficiently cut. It is one of Mr. Lobb's discoveries in Borneo, and has gained a First-Class Certificate.

This little fern is of close, compact growth, notwithstanding that it is furnished with a slender, creeping, scaly caudex. Hence, it forms a dense mass of delicate



evergreen linear pinnate fronds, which grow from four to six inches in length, and are exceedingly beautiful. The pinnae are dimidiate, that is to say, developed only on one side of the costa, and hence the name of hemiptera, which means

“half-winged.” They are developed on the anterior side, and are cut down nearly to the costa, the lobes being more or less deeply parted in a bifid manner, and bearing the short davalloid sori across the end of the segments. It is a very free-growing species under basket treatment, if kept in a moist stove, planted in porous materials, and kept duly supplied with water. M.

## THE PRUNING OF FRUIT TREES,

AS AFFECTED BY DIFFERENCES OF SOIL, CLIMATE, STOCKS, ETC.\*

**F**RUIT Trees are, it is to be presumed, mainly cultivated for the sake of their fruit, and much may be accomplished towards this end by a rational system of pruning. The judicious pruning or non-pruning of fruit trees is a question far more important than that of training, with which it is frequently confounded. Training is the producing of form—an ornamental part of the business, but pruning is chiefly performed for the sake of securing fruit. To prune a fruit tree is a very different thing from pruning any other sort of tree, inasmuch as the production of fruit is much more difficult than that of timber, or mere form. It is easy to grow a tree and prune it so that it may assume any desired form or size, but to make that tree produce good fruit in large quantity, and of good quality, requires much more skill and knowledge.

To prune a tree is to cut off a portion of its stem or branches, and the object to be attained is to regulate the vegetation of the plant. The immediate effect of pruning, or the cutting-off of any portion of a plant, is to cause the parts which are left to increase more rapidly. Thus, if a tree is growing vigorously and making strong unfruitful shoots, the effect of pruning it back in winter is to increase its vigour, instead of repressing it. All winter pruning, or pruning after active vegetation has ceased, results in producing greater vigour in a plant; therefore, a vigorous, healthy-growing tree requires less pruning than a weakly-growing one.

A special point to be aimed at in fruit-culture is equality of growth, and thereby uniformity of action throughout all the parts of the tree. The most unfruitful of all trees are those in which one portion is allowed to have a great ascendancy over the others. The stronger portions of these have then to be repressed, and the weaker portions encouraged. Excessive vigour is undesirable, as trees in that condition bear but a small quantity of fruit; yet it is as possible for a tree to be too weak, and to produce too many small fruits.

A glance at the natural tree vegetation of the country will show that soil exerts a powerful influence thereupon. Thus it will be seen that in one locality the trees are of a dwarf, stunted character, and perhaps very fertile, while in another, they are rampant and vigorous. In the one case, we have probably poor, sandy soil, and an exposed situation; and in the other, deep alluvial loam and comparative shelter. Good fruit may be produced in each situation, yet under very different conditions. Here, then, is Nature teaching us,

\* Abridged from a paper read before the Royal Horticultural Society at Manchester, July, 1869.

and her general laws we must obey; but though we cannot alter this natural order of things, much may be accomplished by skill in moulding them to our purposes. The light soil may be enriched, the strong loam impoverished, and shelter may be procured, but all this can only be done in a very limited way.

Again, Climate greatly influences the growth of trees, and in some respects its effect is similar to that of the soil. Thus, a damp climate, such as that in the south-west of England, counteracts the effect of a dry soil, assimilating the results to those afforded by a deep rich soil in a dry climate. In a damp climate trees grow much more luxuriantly, as a rule, than in a dry one; and as luxuriance of growth is unfavourable to fruit-bearing, our treatment of the trees must again be modified to suit the altered conditions. In the orchards of Devonshire, and other parts with damp climates, there is a remarkable natural check put upon the growth of the trees, which would otherwise be over-luxuriant and unfruitful, namely, the growth of Mosses and Lichens on their trunks and branches, caused, no doubt, by the continued dampness, and the presence of which serves, in my opinion, as a beneficent check upon over-luxuriance, and induces greater fertility than would otherwise be obtained. Here, then, is Nature repressing vigour more effectually than we can do by the employment of any artificial means. It being, then, impossible to alter soil or climate to any great extent, we must perforce, if the greatest success be desired, cultivate only those trees which are most suitable, and that after the manner most in accordance with their natural tendency. In short, in a locality where trees naturally grow but slowly, dwarf or miniature fruit-tree culture will be the most advantageous; and where trees naturally grow luxuriantly, they must be allowed to do so, the modern dwarf, closely-pinched fruit trees being, for the most part, unattainable.

Another important subject is the influence of the Stocks whereon we may graft our fruit trees, and which is in many ways marvellous. It is as yet a subject very imperfectly understood, even by fruit-growers themselves, whom it most intimately concerns. We have not only stocks which impart greater vigour to the plant, and those which check luxuriance and induce greater fertility, precocity, and a tendency to maturation; but we can also select stocks which enable us to cultivate fruit with an almost equal amount of success on damp clayey soils, as on dry sandy loams.

By way of illustration, we may refer to the successful results attained by Mr. Rivers, in his magnificent culture at Sawbridgeworth, with myriads of pretty miniature bushes, and pyramidal and cordon trees, all densely laden with fruit; and we may further be enlightened as to the practice pursued to produce such success, and become in consequence impressed with its desirability, and induced to go and try to do likewise—to have our fruit trees all grown in the same miniature style, &c. They see the results, and seize the idea, but in many cases forget the conditions or other advantages through which these trees have attained their present fruitful state. The natural tendency of tree vegetation

in the soil of Sawbridgeworth is towards early fruiting, for throughout nearly the whole of these nurseries there is a great deal of calcareous matter, which will be found, wherever present, most favourable for fruit-culture. It is greatly to the predominance of this chalky matter in the soil, though partly to its exposed situation, and to the use of suitable stocks which give a dwarfing tendency, but most of all, to Mr. Rivers' skill in taking advantage of all this, that we are to attribute his immense success in the culture of miniature fruit trees. The trees grow slowly, yet sturdily, and make short-jointed wood, well supplied with fruit buds. Indeed, the difficulty of their having too much of a fruiting tendency occurs at times, the trees being thereby soon exhausted. It is desirable at all times that fruiting trees should produce a certain quantity of young shoots, as on the influence of the leaves so produced and on the vital action thereby infused into the plant, depends chiefly the quality of the fruit. To induce shoot formation, the pruning-knife may be used to great advantage, and the shoots cut closer back, although there may be little to prune. In fact, the trees may be kept in smaller compass than that which would be prudent to adopt in the case of trees growing very vigorously. The cultivation of miniature fruit trees, at 4 ft. apart, under such conditions is highly commendable.

To reverse the picture, let us visit the rich valley of the Thames, with its deep alluvial loam, and look at the fruit-culture in some of the market gardens—for example, that of Mr. Dancer, at Chiswick. Here there is also fruit in abundance, and of the very finest quality; but the trees, instead of being dwarf and fruitful, are large, rampant, and vigorous, and although while in a young state they produce but little fruit, still as they attain age, if not overpruned, fruit is produced in immense quantities.

Assuming the stocks, &c., used in each locality to be the same, in the one case, winter or close pruning would be necessary to induce greater vigour, and prevent over-fertility and weakness; while, in the other, the object would be to reduce luxuriance, and this would be best effected by non-pruning, or at most, by merely thinning-out the shoots and branches where crowded, so as to expose the remaining ones more freely to the influence of light, leaving the strong-growing young shoots at almost their entire length; they next season produce a less vigorous growth, and as a consequence become more fertile, on account of the forces of the plant not being concentrated on a few buds, but being required to spend itself over many. In short, in the one case, miniature fruit-tree growing is advantageous and practicable, simply because the trees are not inclined naturally to grow larger: and in the other, it is almost impossible, because the trees naturally grow too luxuriantly.

Excessive vigour may, however, be considerably repressed, and fruitfulness induced, by judicious summer pinching of the growing shoots, and also to a great extent by root-pruning. The first, *i.e.*, summer pinching, is of paramount importance, and by constant application a great deal may be accomplished. It

is an operation absolutely necessary in the culture of miniature trees. The pinching or taking-away of any portion of the leaves arrests the flow of sap in that direction, and directs it towards the parts which are left. Thus, by stopping the stronger-growing portions, which are those on the upper parts of the tree, and which are in advance of the lower or weaker portions, we equalize the flow of the sap, and cause a uniform action throughout. This stopping and checking of the shoot-growing propensities of the tree tends towards the formation of fruit-buds, excepting in some cases, namely, in very rich soil, and where it is attempted to confine the energies of the tree within too narrow a limit. Under such circumstances, the most incessant summer pinching will fail to induce fertility, but will result in the continued production of watery shoots, and a gradual weakening of the tree. In such cases, root-pruning may in some instances be resorted to with advantage. Root-pruning in the case of miniature fruit-tree culture is in many soils necessary to keep the trees within bounds. It should, however, only be appealed to as a last resource, after all other modes of checking vigour and inducing fertility have failed. Root-pruning tends too much to weaken the whole system of the tree, to take away the powers of the plant which are required for the support of whatever fruit may be produced. It is not exactly a weakening of the entire system of the tree which is required, but a retention of all its powers, and a direction of their forces towards the production of fruit, instead of shoots.

I recommend those who may be commencing fruit-culture to take well into consideration the soil and situation of the place, and then the object, whether the production of fruit simply, or fruit combined with the formation of the trees after some particular form. Whatever may be the object, the condition of the soil should be considered, and the trees selected should be worked on stocks whose requirements can be best supplied by that soil, and by the mode of pruning and general cultivation intended to be adopted.

*Chiswick.*

A. F. BARRON.

### PRIMULA PEDEMONTANA.

**W**E have to thank the Messrs. Backhouse and Son, of York, for the opportunity of illustrating the beautiful Alpine Primrose, which forms the subject of this note; and which was introduced by them from the Graian Alps of Piedmont.

The plants form a close rosette of obovate sinuately-toothed leaves, from among which rise the flower-scapes to the height of from five to six inches, bearing clusters of about seven or eight flowers, of a pleasing bright purplish or magenta rose, sometimes with a white or pale-coloured ring around the throat, and measuring an inch across the limb of the corolla, the lobes of which are obovate. These flowers are produced in spring.

We learn from Mr. Backhouse, who has closely studied this race of plants,

that the alliance of *P. pedemontana* is with *P. viscosa* and *P. integrifolia*, from both of which, however, it conspicuously differs. "It is of easy cultivation in a mixture of loam and peat, interspersed with bits of stone." M.



### THE MULBERRY TREE.

AM very glad to find that the attention of your readers has at last been directed to this valuable fruit tree. Allow me, then, to state that the reason why the fruit is not seen at any fruit exhibition, why it is not found on the dessert-table, and why it is not marketed like other garden produce, is because it will not bear packing, either in large or small quantities. Therefore it is always eaten from under or from off the tree. The fruit is most agreeable and wholesome, in any form, either fresh or preserved. No garden or lawn, where there is room, ought to be without a Mulberry tree.

I have a tree of somewhat extraordinary dimensions, growing on a very stiff clay soil. The trunk is 3 ft. 10 in. high, and 4 ft. 6 in. in girth; the extreme height of foliage from the ground is 28 ft., and the outside circumference 159 ft. The form is a complete dome. It was planted by my father fifty years ago, and has survived without injury the two first of its three stages of growth, which

are—25 years in getting to perfection, 25 years remaining in that state, and 25 years declining. It is one of the most beautiful trees imaginable, and ought to be seen now (August 21) whilst its beauties are perfect.

*Rye, Sussex.*

EDWIN NATHANIEL DAWES.

### THE CULTURE OF THE CALCEOLARIA.

THE great improvement which of late years has been effected in the herbaceous varieties of this beautiful plant has led to its greatly increased cultivation as an ornamental plant for the conservatory, without reference to its particular properties as a florists' flower. For this purpose the plant is well adapted, and will amply repay the cultivator when both the strain and the habit are good. The culture likewise is so simple and easy, that no one who has a cold pit at command need be without a good show.

In early days, the varieties of this plant were usually propagated by cuttings, which entailed a great amount of care. So long as the varieties were few in number, this was an unavoidable necessity; but now the size, form, and colour of the flowers are so good and afford such infinite variety, and the habit of plant is so much improved by a system of culture from seed alone, that propagation by cuttings is not needed, unless it be in the case of very superior varieties, for the mere purpose of crossing. The system, therefore, now generally adopted, and which is greatly to be preferred, is to treat it simply as an annual, thereby effecting a great saving of time and trouble, no light consideration in these days, when the number of subjects claiming the gardener's attention seems multiplying *ad infinitum*.

The first requisite is to obtain good seed. Fine strains are to be bought in the trade; but cultivators generally like to have a strain of their own as well, and to have it good the sorts must be carefully crossed, in the performance of which operation a few leading objects must be kept in view, such as the size, shape, and colour of the flowers, and the habit of growth. The aim should be to obtain the three first, on plants of a dwarf and compact habit of growth. Some sorts are so rampant, that they spread out in all directions, requiring a forest of tall sticks to keep them in bounds. Such should be discarded for hybridizing, unless the flowers are very superior in shape and colour, when they may be used to fertilize the flowers on a dwarf-habited plant, of which there are many that never require the support of a stick. It is best to remove from the general stock the plants selected for crossing, and to place them where they can have sunshine under glass, leaving only a few flowers on each plant, and taking care to effect the fertilization in due time during the middle of the day, when the sun is out. Observe that a dozen good pods of seed will furnish a very large supply of plants.

The seed should be allowed to ripen thoroughly; in most cases this will be accomplished about the end of August, about which time also it ought to be sown. We use shallow pans filled with light soil, which should be pressed down to a



perfectly level surface, one-eighth of an inch below the rim, and then a little silver sand scattered over the surface to fill up interstices. They are then watered with a very fine rose, sufficient water being given to permeate through all the soil. When it has drained off, the seeds are carefully sprinkled over the surface, and a little more silver sand is spread over the seeds. The pans are then placed on a level surface of coal ashes under a north border, and a hand-glass is put over them. No water will probably be required for more than a week, but when necessary it must be very lightly administered, to avoid swilling the seeds off. Snails must be guarded against through all the early stages, but especially when the plants are very small. I have known them in one night to spoil the hopes of a season. The seedlings are carefully pricked into shallow pans, about an inch apart, as soon as they have made four leaves. The pans are then placed in a cold pit, on a cool bottom, but near the glass, kept regularly watered when necessary, shaded from bright sun at first, and most important of all, thoroughly ventilated—a point which must never be neglected in any of the stages. Here they remain until ready for potting-off.

One important consideration presents itself to my mind with regard to these plants, which is, that they should never be allowed to become so much pot-bound as to cause a stagnation in their growth, so as to induce in their early stages a premature inflorescence. If frost is kept from them, they continue growing all through the winter, and may, therefore, be potted on at any time, when the roots have well developed themselves in the pots, even although it may be midwinter, providing it does not freeze. In about a month from the time of pricking-out, they will be ready for potting-off. I prefer putting them into small 60's, and return them to a cold pit near the glass. About November they will be ready for a shift into 5-in. pots, in which they may remain without injury until early in February, when, if they have had a favourable winter and the weather is mild, they may have another shift, the smallest into 6-in. and the largest into 8-in. pots. The next shift must be into blooming pots, and the time will be when the roots have well developed themselves. We find sixteens or 9-in. pots quite large enough for the strongest plants, very good specimens may be grown in 8-in. pots, with the assistance of a little manure-water occasionally.

The compost we use through all the potting stages consists of a rather strong turfy loam, and leaf-mould in equal parts, and another part consisting of well decayed hot-bed dung and sharp roadside sand, all well incorporated together.

Other features of management consist in constant ventilation; regular attention to the application of water, which during December and January must be applied rather sparingly, and never over the leaves; frequent removals of decayed leaves, and gentle stirring of the surface soil; and last, but of the greatest importance, frequent gentle smokings to keep down aphides—don't wait for these to come on to the plants, so that they can be seen, for when that is the case, half the mischief is done. Let fumigation be considered as an integral portion

of the routine of management, and smoke gently but often. If the cultivator leaves his plants to get well covered with aphides, and thinks to cure them by excessive fumigation, he will be mistaken, and had better throw them to the rubbish-heap at once.

*Redleaf.*

JOHN COX.

### GLOU MORCEAU PEARS: A PECULIARITY.

THE Glou Morceau Pear, which I had hitherto considered to be one of our hardiest varieties, has been singularly affected by the past inclement spring. The trees generally bore flowers in abundance, and a fine crop of fruit appeared to have "set," and commenced swelling. This they continued to do until they had attained the size of pigeon's-eggs, and were some two months' old, when suddenly they fell off, leaving not more than a tenth part of the entire crop. Those which remained afterwards commenced swelling-off more freely.

This is not the peculiarity of an individual tree, for I have been shown the same results in Essex, some twenty-five miles from here as the crow flies, which is a proof, I think, that this variety is not so hardy as many other sorts.

*Digswell.*

WILLIAM EARLEY.

### SEASONABLE HINTS FOR AMATEURS.—OCTOBER.

THE long continuance of fine weather during the latter part of the summer has compensated in a great measure for the unfavourable weather we experienced in the early part of the season. The Hay crops were everywhere heavy, and the weather all that could be desired during the making of it. The Corn crops have all been harvested in splendid condition. Beans have been good; Turnips are abundant and fine everywhere; Potatos are a good crop, and are reported sound. With the exception of Apples and Plums, which have been thin in places, all kinds of fruits have been abundant. The season, on the whole, has been a bounteous one, a blessing for which we should feel grateful to an All-Wise Providence.

The Flower Garden now begins to show indications of the approach of winter. Those masses of colour which a few weeks ago appeared so gay and brilliant are now beginning to fade. The amateur should, therefore, give great attention to neatness and order, by removing all decayed leaves and flowers, and keeping the walks, lawns, beds, and borders in the best possible condition. All tender choice plants that it may be intended to save should be lifted out of the flower-beds, potted, and placed under protection not later than the end of the second week of the month. Though the weather may continue mild to the end of the month, it is not safe to leave them out so long. I would strongly advise amateurs who live in the neighbourhood of large towns to plant as many trees and shrubs as they can, without crowding, in their borders—evergreens, where they will thrive.

such as Hollies, Berberries, Aucubas, Rhododendrons, Kalmias, &c., or where these do not succeed, a variety of deciduous trees and shrubs. When the frost has destroyed the beauty of the flowers, the whole should be cleared away, and the beds and borders should be dug and planted afresh,—some with hardy bulbs, as the Narcissus, Hyacinth, Tulip, Crocus, Jonquil, &c.; the remainder, with Pansies, Primulas, Alyssums, Aubrietias, Drabas, Phloxes, Hepaticas, &c. As this is a good season to lay turf, I would advise that where lawns are uneven, the turf should now be taken up, and relaid, after levelling the ground.

As soon as there is danger from frost, all tender plants should be placed under protection. The hardier sorts may be put under any temporary shelter, the more tender ones should be placed under glass, either in pits or frames or in the greenhouse. Cinerarias and Pelargoniums for autumn flowering should have plenty of air in mild weather, and be carefully watered when they require any. Cinerarias for spring flowering should now have a liberal shift, and be placed near the glass during the winter months; they must be carefully watered, and kept free of greenfly.

The work in the Kitchen Garden this month is not of great importance. The late Potatos should be taken up, dried, and stored away. The best way of storing them is that which will keep them most effectually dry; a dry cellar or outhouse answers well, if frost can be kept out. Carrots, Parsnips, Beet, Salsafy, and Scorzonera should also be taken up, dried, and carefully packed away in dry sand in a dry cellar or outhouse. All these should be looked over occasionally, to see there is no dampness amongst them. The earthing-up of Celery must be attended to, not only to blanch it, but also to protect it from the effects of frost. Cauli-flowers sown in the open ground in August, should now be planted out under hand-glasses, and some should be pricked out into frames for transplanting in spring. When the Asparagus haulm is dead it should be cleared away, and if there be any weeds on the beds they should be carefully hoed and cleared away; the beds should then have a dressing of good manure put on them, and this should be covered with soil out of the alleys. As ground becomes vacant it should be manured, dug or trenched, and thrown up into ridges, to expose it to the influence of the atmosphere.

In the Fruit Garden the gathering-in of Pears and Apples until all are housed must be daily attended to. To ensure their successful keeping, careful handling is absolutely necessary, as is also gathering at the proper time. Experienced fruit-growers can tell at a glance when fruit has reached the state in which it should be gathered, but the amateur, without considerable experience, can hardly do so, though he will not be far wrong if he attends to the rule commonly observed in this matter—that is, to note when the fruit begins to drop naturally from the tree, or to part freely from the stem on being moved. Quinces, Medlars, Walnuts, and other nuts should be gathered during this month.

I would strongly urge on amateurs the advantage of early autumn planting,

as this is the best season in the whole year. But to ensure successful results in planting fruit trees, the soil should be well drained if the subsoil is of a retentive character, and the soil of the border must also be improved, if of a clayey nature, by the admixture of substances that will improve its physical properties. When the soil is clayey, the borders should not be made too deep. When the soil is of a sandy nature, and the subsoil porous and gravelly, then little or no drainage is necessary; generally such soils are naturally sufficiently drained, and are improved by the addition of clay, marl, or any other retentive substance. In soils of this description the borders should be made tolerably deep, and plenty of good rotten manure may be put into them with advantage. Whatever the nature of the soil, it should be made fit for the reception of fruit trees before any are planted, otherwise the result will be failure. In amateurs' gardens dwarf trees only, as a rule, should be planted, unless the ground be of a considerable extent. In light sandy soils, Pear trees on the Quince stock do not always succeed very well, therefore, in planting Pears in soil of this description some earth of a clayey retentive nature should be put into the holes about the roots of the trees. The old canes of Raspberries that have produced fruit should be cut away, the young ones thinned, and tied up to the espalier wires, and the ground between should be well manured and dug; new plantations may now be made.

*Stourton.*

M. SAUL.

## CHEAP AND BEAUTIFUL LACINGS,

FOR GRAVEL WALKS, TURF VERGES, AND THE FOREGROUNDS OF SHRUBBERIES.

**W**H yes! these are just what we want! something that will last, and that won't be killed every winter, and that will bring us a glow of beauty every spring or summertide, and whose leaves will be pretty when the flowers are faded,—plants that will stand as edgings in single file, or form charming lines in broad or narrow ribbons,—things of rare beauty,—gems! . . . Stop, stop! We were to write of cheap things. Well, why not? The cheaper the better.

Just look at that glowing line of Thrift, that fringes the light gravel with an aurora so bright that it even illumines the common-place potato-tops on the other side, and raises its purple shadow nearly to the top of the espalier apple trees eight feet behind it. What could be more beautiful? It forms a fringe about a foot wide of the most exquisite colours, and the form is that of the most artistically poised knots of purple, placed exactly the right distance from its lovely green base. And the price? Why, you may buy enough for a shilling to plant a hundred yards the year after. The plants will bear being taken to pieces like a bundle of needles tied together, and every separate piece may be converted into a plant, and become the prolific centre of other plants to infinity. Thus by persistent subdivision any quantity may be manufactured. About four years ago I bought a patch out of a cottage garden, and now I believe I could

plant a line in single file from Hardwicke to London. It forms a capital edging in itself, the foliage being so dwarf and dense, of a beautiful green; and as a flowering fringe to box, tile, or stone edgings, it is admirable. There are several varieties. We call ours *Armeria grandiflora*; it is rather more robust and much higher-coloured than the common Thrift. It flowers from the end of May till the middle of July, and much later if the flowers are persistently removed as soon as they fade. The grand display is in the middle of June, and we have this season had several hundred yards of it, that one never tired looking at. Of all cheap and beautiful edgings, I put this first.

Amongst the next best, I would place *Saxifraga hypnoides*, one of the commonest and most beautiful of all the Saxifrages. With an equally beautiful and more dense, spreading leafage, the flower-stem rises higher, and the flowers are in shady places of the purest white. In more exposed positions, there is a yellowish tinge in the white of this light and graceful flower. Strong plants of it in single file will occupy nearly a foot in width, and it forms a most effective and charming fringe to any of the positions I have indicated. The plant is perfectly hardy, and may be increased almost as rapidly, though not quite in the same manner, as the Thrift, nor must the subdivision be carried to the same extent. Every cutting of the Saxifrage must be a perfect branch.

Next we come to the Forget-me-Nots. What can exceed these in beauty? And then they have a second beauty laid over the first, in the deep hidden meaning that clusters round the whole family like bees, and gathers the honey—love—from every bending flower. There is, first, *Myosotis sylvatica*, white and blue, and then there is the far lovelier *M. dissitiflora*, which lines the earth with a band stolen from the deep blue sky. With care in culture, and skill to increase and multiply such plants, no walk, verge, or shrubbery should go unlaced with blue. However, these plants are not so well adapted for front lines, on gravel, or to be used as substitutes for other edgings, as those previously adverted to.

I will only name one more plant, and I have done,—the Golden Feather, or Feverfew, hardy as our old friend the common Feverfew, beautiful as a golden crown, regular and bright as a well-drilled regiment in new uniforms. This plant will prove one of the most beautiful for lighting up walks, shrubberies, and turf with a line of gold. It stands the winter without flinching, seeds freely, comes quite true from seed, and any two joints will form a new and independent gold feather, to plume its beauty wherever needed.

I conclude by tying these four plants together, into a four-banded ribbon or fringe, to be used anywhere and everywhere, and challenge your readers to produce a cheaper, more beautiful, and more permanent band for decorative purposes:—First, the Thrift against the light-coloured gravel. Next the Saxifrage, mixing its spraying flower-stems amid the glowing purple, and reaching back amid the elegant Forget-me-Not. Finally, the Feverfew, throwing all the others up and out against its field of the cloth of gold.

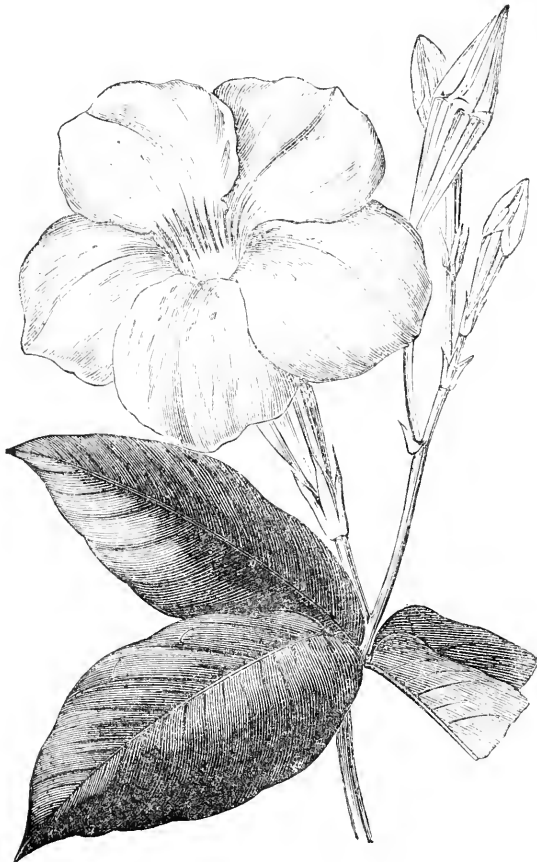
Have I not kept my opening promise, and given a peep at one batch—it may not be the last—of cheap beautiful lacings for dressing up gravel walks, turf verges, or any other positions where such embroideries can be used?

*Hardwicke House.*

D. T. FISH, F.R.H.S.

### DIPLADENIA BOLIVIENSIS.

**A**LLIED in many respects to *Dipladenia urophylla*, the new species which we now introduce to the notice of our readers is a perfectly distinct plant, and a welcome addition to our stove climbers. It differs from the species just referred to in its leaves, which are less strongly acuminate, and its flowers, which are white, and have a more slender tube. It is, in fact, a



white *Dipladenia* with flowers corresponding in size with those of the species above named.

*Dipladenia boliviensis* forms a compact climbing glabrous shrub, with slender stems, oblong acuminate smooth leaves of two or three inches long, subterminal or axillary racemes of three or four flowers, which are almost salver-shaped, smaller than in *D. crassinoda*, and of a pearly white colour, with a golden yellow throat. The plant is of very free-flowering habit, and will therefore be an acquisition. It is a summer flowerer.

We owe its introduction, as that of so many other choice novelties, to the Messrs. Veitch and Sons, of Chelsea, who obtained it from Bolivia through their collector, Mr. Pearce. It flowered for the first time in June, 1868, when it was exhibited, and gained the Royal Horticultural Society's Prize Medal as the finest new plant shown in flower. M.

### NEW FLORISTS' FLOWERS.

A MEETING of the Floral Committee was held at Chiswick on the 10th of August, for the purpose of examining the *Bedding Pelargoniums*, some few of which were Certificated. *The Moor*, *Plutus*, and *Rev. W. F. Radclyffe* in the gold and bronze-zonal section were severally awarded First-Class Certificates. *The Moor*, which promises to be a finer bedder, is very effective, from its clear colours, a bright yellow-green, with a clear dark chestnut zone; but the leaves are somewhat lobed, which is its chief fault. *Plutus* is inferior to because greener than *The Moor*, which it otherwise a good deal resembles. *The Rev. W. F. Radclyffe* is remarkable for its free compact habit, and for the endurance of its bright yellow-green colour, the leaves being marked with a narrow vandyked zone of clear chestnut-red. The variegated zonals comprised some promising-looking sorts, but they were scarcely sufficiently grown. A First-Class Certificate was given to *Amy Richards*, a most effective bedding variety of the Mrs. Pollock style, raised at Chiswick, remarkable for its bold vigorous growth, and its large, flat, highly-coloured leaves, both growth and colouring being far superior to the older variety growing beside it. A First-Class Certificate was also given to *Sir R. Napier*, a very dark-zoned variety of this group, remarkable for its distinctness. In the silver variegated group a First-Class Certificate was given to *Miss Kingsbury*, a most telling scarlet-flowered variety, of dense compact habit, and having a broad white margin to the leaves, which are of average flatness. A First-Class Certificate was given to *William Underwood*, a variety which would no doubt have received the award much earlier, had it been sent at an earlier date for trial; it is a free-growing and very floriferous sort, with dark-zoned leaves, and close trusses of good-sized fair-shaped orange-scarlet flowers of a very effective character. First-Class Certificates were given to *Advancer* (Bull's), and *Rose of Lee*, both of the rose-pink group. The former is a dwarf green-leaved free-blooming sort, with pure self-coloured bright rosy-pink flowers, and showing every disposition to be a good dwarf bedder; the latter, a vigorous, compact, and erect-growing sort, with faintly-zoned leaves, and dense trusses of small flowers

of the colour of those of Madame Barre, elevated on long stout footstalks, bright rose-pink, with white base to the top petals. *Fausta*, a bright rosy lake, and *Claude Lorraine*, a deep magenta, two strikingly beautiful colours, but only just coming into bloom, were greatly admired.

The meeting of the Floral Committee at South Kensington on the 17th ult. added a few interesting novelties. Foremost were some *Gladioli*, from Messrs. Kelway and Sons, Langport. *Cherub*, a pale buff with crimson feather; *Medina*, creamy white with crimson flame, and lightly barred with rose at the edges; and *Accius*, white slightly barred with purple, and having a broad dash of purple on the lower petals, all obtained First-Class Certificates; while *Freemason*, a rosy carmine, with a buff-coloured flame, gained a Second-Class award. Some fine new *Verbenas* came from Mr. Perry, Castle Bromwich, and Mr. Eckford, Coleshill. The former had *Ada King*, a very large round, slightly cupped, white, with faint zone of pink near the eye; and *Thomas Lawden*, a large, well-formed, rosy-pink, with crimson eye. The latter had *Harry Eckford*, a deep crimson, with flat bluntly oblong lobes, and a large white eye; *Eclipse*, a rich crimson-scarlet self; and *Lady Anne Speirs*, a large, finely-formed, and entirely novel variety, with rosy-pink centre, and a broadish well-defined white margin. All these were awarded First-Class Certificates. Messrs. Downie, Laird, and Laing, Sydenham, received Certificates for two *Pelargoniums*, *Lady Hawley*, a semi-nosegay, with good trusses of orange-scarlet flowers, and faintly-zoned leaves; and *Stansteal Rival*, a zonal, with compact bold trusses of well-shaped flowers of a deep scarlet, just perceptibly flushed with a tint rose, lying like a bloom upon the surface of the petals.

A good blue-flowered bedding plant—one that is surer and more reliable than any of the purple-coloured *Verbenas*—has at length appeared in *Ageratum Imperial Dwarf*, a capital dwarf, compact, and free-flowering variety, exhibited by Mr. W. Chater, Saffron Walden, and to which a First-Class Certificate was awarded. This is, no doubt, one of the best new bedding plants of the season. It is of robust compact habit, 8 in. to 10 in. high, bearing a profusion of large flower-heads of a deep cœrulean blue.

At the meeting on the 7th of September, some fine Seedling *Dahlias* were brought forward. Mr. C. Turner, Slough, was awarded First-Class Certificates for *Toison d'Or*, a bright yellow self flower of fine form and substance; and for *Harvard*, lilac rose, also a self flower, of a pleasing hue of colour and good outline. Mr. George Rawlings, Romford, received a First-Class Certificate for *Aristides*, purplish-crimson, shaded with dark, a flower of fine shape, full substance, and high centre; and the same award was made Mr. G. Parker, Winkfield, for *Queen of Yellows*, a large bright orange-yellow flower of good substance; also to Mr. Burgess, Chelsea, for *William Lund*, a deep crimson-maroon flower of good properties. Mr. Eckford obtained at this meeting a First-Class Certificate for *Verbena Countess of Radnor*, bluish-lilac, well marked in the centre with



violet round a lemon eye, distinct and good. Mr. Eckford also obtained a First-Class Certificate for a fine new Hybrid Ivy-leaved *Pelargonium*, *Lady Edith*, having bright rosy flowers tinged with purple, the trusses of bloom of fine size, and the foliage marked with a well-defined zone. Messrs. J. and C. Lee, Hammersmith, were awarded a First-Class Certificate for the fine new autumn-flowering hybrid perpetual *Rose*, *Clémence Raouf*, large, of a pale mottled flesh-colour, and powerfully fragrant, which promises to be an acquisition.

At the meeting on September 21, one of the most beautiful and perfect forms of the *Dahlia* ever produced was exhibited by Mr. Rawlings, Romford, and was awarded a First-Class Certificate. It was named *Royalty*, and was of a bright golden ground-colour, some of the petals slightly tipped with brown, full high centre, and splendid outline. Mr. George Wheeler, Warminster, received a Second-Class Certificate for *Lord Weymouth*, deep buff golden ground, heavily tipped with dull red, a pleasing border flower; and the same award was made to Mr. C. Turner, Slough, for *Alice Gair*, blush ground, heavily tipped with bright rosy purple, good outline and substance, but not shown in the best condition. A First-Class Certificate was also awarded to Mr. Turner for *Provost*, a novel-looking orange-red flower, of good substance and outline.

*Veronica Blue Gem*, from Mr. H. W. Warren, Salisbury, appears likely to make a capital pale-blue bedding plant, being very compact in habit, and remarkably free-blooming, and it was stated that it had done remarkably well out of doors during the summer. It was awarded a First-Class Certificate. Quite a gem in the way of a bedding *Viola*, named *Perfection*, came from Mr. Jobson, of Rothersfield Park Gardens, Alton. It is said to be a hybrid between *V. cornuta* and some variety of Pansy. The flowers are horned as in *V. cornuta*, but are nearly three times the size, and of a dark mauve-purple hue, with some dark lines radiating from a yellow eye. It also received a First-Class Certificate.

Mr. Wimsett contributed a basket of each of Wills's new hybrid Ivy-leaved *Pelargoniums*—*Willsii*, and *Willsii rosea*. The latter was awarded a First-Class Certificate some time ago; the former received the same award on this occasion. The plants were profusely covered with small but showy trusses of bright violet-rose-coloured flowers, and both varieties promise to be extremely useful for house decoration.

R. D.

## MONTHLY CHRONICLE.

**T**HE International Exhibition of the Royal Caledonian Horticultural Society, on the 8th and 9th of September, was one of the grandest fruit shows that has ever been witnessed, the country having never previously been so thoroughly represented in one place. The Grapes were more numerous and of a better general quality than at the former Exhibition in 1865, besides which the competition was more purely national. In Pine apples there was no advance evident; while in Peaches, Apricots, Plums, Apples, and Pears, there was a decided falling-off, possibly attributable to the exceptional season, but the tables groaned with the load of that most luscious of

fruits—the Grape. The miscellaneous collections were worthy of the highest commendation. In the larger class—20 sorts—in which six competed, the battle for position lay between Stevens of Trontham, Johnstone of Glamis Castle, Thomson of Dalkeith, and Ingram of Alnwick; while in collections of 16 sorts, Mathieson of Tullicallan, Lees of Tynninghame, and Temple of Balbirnie took precedence. The post of honour must, however, be assigned to Mr. George Johnstone, who won easily the principal Grape prize of the day, and who was first in 10 other of the Grape classes, amidst a host of competitors! This unparalleled success goes to show what can be done with young Vines and well-made borders, under skilful management. The effect of the show was greatly heightened by the admirable manner in which the flowering and decorative plants were arranged in the adjacent hall.

— THE International Horticultural Exhibition opened at Hamburgh on the 2nd of September has proved to be successful. The park in which the show was held, some 20 to 30 acres in extent, is beautifully situated on the old glacia, and was admirably adapted for such a purpose, though the show was organized on so extensive a scale that even this space did not suffice. The valley was laid out with winding walks, and groups of trees, shrubs, and flower-beds, the Conifers, Fuchsias, Pelargoniums, &c., being skilfully dispersed so as to give it rather the appearance of a beautiful garden, than of an exhibition-ground. There were many noble specimens of Palms and Cycads; the Bronze Pelargoniums from England were pre-eminent; there was a fine collection of Cactuses, and a splendid assortment of bouquets and cut flowers of various kinds. The fruit department was, however, by far the most interesting section, and here there was nothing to come at all near the British Grapes of Mr. Meredith, who won the Queen's Cup, and of Mr. W. Thomson, who obtained a gold medal, and whose three bunches of Grapes were quite wonderful. We heartily congratulate these gentlemen on their success, notwithstanding that it would appear that the cup at least was intended for other hands,—a laxity of principle in the management which deserves severe reprehension. Mr. Meredith's collection consisted of three very large bunches of Mrs. Pince's Black Muscat, a beautiful set of three bunches of Black Hamburgh, perfect in every respect, with Muscat of Alexandria, Lady Downe's Seedling, Trentham Black, Muscat Hamburgh, &c., all really excellent examples. Mr. Thomson competed with a most perfect bunch of Chasselas Napoléon, weighing 4lb.; a very large bunch of Muscat of Alexandria, weighing 5½lb., but somewhat green; and a Black Hamburgh, of 3½lb., not quite up in colour, and with the drawback of having been bruised before it was staged. The collection of Apples and Pears was excellent, and there were many good Pines and Melons. The number of visitors is said to have been enormous.

— THE Gardeners' Examinations of the Royal Horticultural Society in July last, gave the following results:—

NAMES.	FRUIT & VEGETABLE CULTURE.		FLORICULTURE.	
	Cert.	Marks.	Cert.	Marks.
GEORGE HASKINS, Chiswick ... ..	3rd	369	2nd	625
ALFRED JONES, Chiswick ... ..	3rd	550	3rd	400
CHARLES BURLEY, Chiswick ... ..	3rd	420	2nd	675
GEORGE DOWNTON, Chiswick ... ..	2nd	660	1st	1000
JAMES HUDSON, the Deepdene Gardens, Dorking ...	1st	1200	1st	1000
W. READ, Royal Gardens, Kew ... ..	3rd	390	3rd	425

— AN illustration of the depth to which the roots of plants penetrate was furnished at the show of the Highland and Agricultural Society, at Edinburgh, in July last. The Marquis of Tweeddale exhibited a sample of Oats growing in earth, contained in a glazed case, 6 ft. in depth, the upper 3 ft. consisting of ordinary surface soil, and the lower 3 ft. of subsoil. The top and root progress of these oats was as follows:—April 20th, the points of leaves just appeared above the surface of soil; roots 1 in. down. April 22nd, leaves 1 in. high; roots 5 in. down. May 12th, leaves 3 in. long; roots 12 in. down. May 24th, scarcely any increase in the length of the leaves; roots 2 ft. 9 in. long. On the 7th of June, the portion of the box containing the subsoil was added. June 16th, roots 4 ft. deep, and extending at the rate of 1 in. in 24 hours. June 20th, roots 4 ft. 6 in. deep; plants 15½ in. high. July 7th, roots entering the ground on which the case stood, therefore 6 ft. long.

— THE New Plectopomas, raised by M. Van Houtte, differ so much from their type *Plectopoma gloxiniaeflorum*, that a botanist would have some difficulty in discovering the affinity, though they inherit in a great measure the foliage of the type. In respect to habit, they are far superior; for instead of producing their flowers towards the summit only, the plants become complete floral pyramids, covered from base to summit with large well-shaped flowers of various forms, and of innumerable shades and colours. These and kindred Gesneraceous plants are invaluable for ornamenting the greenhouse during summer and autumn, and in view of them M. Van Houtte asks, why should the amateur leave his cold house empty during the five months intervening between the removal into the open air and the re-entrance of the plants for which it has been constructed, when, with little trouble, he might enjoy the rich and innumerable colours of the various Gesneraceous plants,—plants destined to play an important part in house decoration?

— IT is a matter of surprise that the fine varieties of Lilac now in cultivation, such as the magnificent dark-coloured kinds named Dr. Lindley and Charles X., are not oftener planted in preference to the very inferior older kinds of common Lilac, which they excel as much as the plant usually grown as Persian Lilac, but which appears to be the Rouen variety (*rothamagensis*), does the comparatively puny-looking type of *Syringa persica*.

— THE Cannas at Battersea Park have been very effective this season, especially a bed of the dark-leaved *Canna Bihorelli*, which was worthy of all praise. This is one of a new race of Cannas, dwarf in growth, and very floriferous, bearing large and strikingly showy flowers, and which will become extremely useful in flower gardens. *C. violacea superba* is of the same habit, with motley-bronzed leaves, and abundant red flowers. *C. picturata nana*, dwarf and free as the foregoing, has green leaves, and yellow flowers spotted with crimson. Two fine dark bronze-leaved sorts of larger growth are *C. metallica* and *C. metallicoides*—both very telling varieties for foliage groups. *Canna Annei*, in one place, where it had been left out all the winter, grew from 9 ft. to 10 ft. high, and *C. peruviana* 7 ft. high, both freely blooming. Generally, the Cannas which had not been disturbed in winter, have grown away with remarkable vigour.

— THE following new Picotees, Cloves, &c., should be in every collection, as they are adapted for decoration either in pots or in the garden border:—Turner's Admiration Picotee, a fine large purple-edged flower, which gives a quantity of blossoms, and is of very strong compact habit. Perkins' Prince of Orange Carnation, the finest orange-yellow tree Carnation yet before the public; of good constitution and a free flowerer; indeed, it may be had in flower all the year round. Hodge's Bride Clove, a pure, white, clove-scented, large, bold flower, with occasionally a little tint of flesh-colour; it is particularly free and good; a strong grower, and will force well.

— HICKS' Hardy White Cos is said by Mr. Edlington to be a most distinct and valuable Lettuce. If it proves as good a winter Lettuce as it has turned out during the summer, its good properties will be considerably enhanced. The spring-sown plants grew to a huge size, and notwithstanding the excessive drought, there was no tendency in this variety to "bolt." Where Cabbage Lettuces are at all in demand, the new French Spotted is undoubtedly one of the best to grow for summer purposes. It grows to a large size when well cultivated, and stands well, without the least tendency to run to seed.

— To perpetuate Double Stocks, it is recommended, when the varieties are in full bloom, to take off as cuttings the lateral shoots beneath the flowers (before they show bloom), and to prepare and plant them like those of other soft-wooded plants, placing them in a cold frame, and shading them until roots have pushed out freely. In this way it is said that plants more symmetrical in shape, and blooming more profusely than those generally raised from seed, are produced.

— WHO can say that we have even yet produced *Lilium auratum* in all its beauty. Certainly the specimen shown on the 17th of August at South Ken-

sington by Mr. Goode, gardener to the Dowager Lady Ashburton, Melchet Court, Romsey, Hants, was by far the grandest which has yet been seen in public. This noble specimen was originally bought as a single bulb at the price of three guineas, and has not since been disturbed, but has been potted on as one entire plant. It had this year eleven fine strong flowering stems, each about eight feet high, and bore on the whole 152 blooms, of which about 130 were fully expanded when exhibited. The specimen was universally admired, no less for its perfect cultivation than for the beautiful condition in which it was shown, not a flower being bruised or pollen-stained, even though the plant had been brought a distance of 80 miles on an open railway truck. This plant was worthily awarded a Lindley medal.

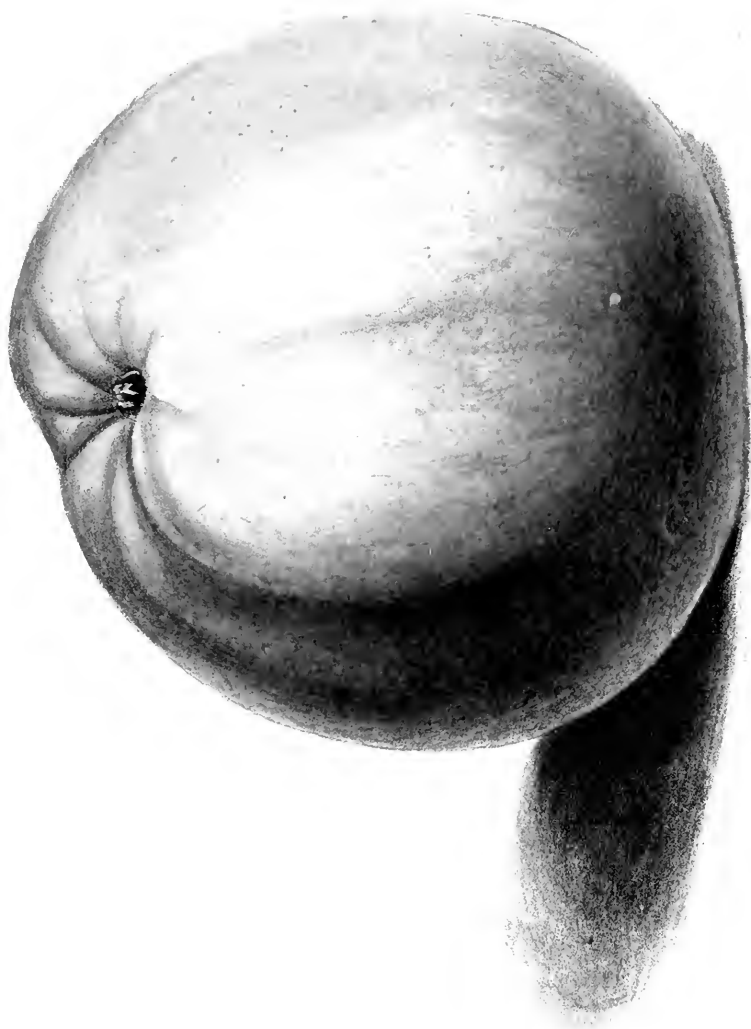
### Obituary.

— **FREDERICK SCHEER**, Esq., died at Northfleet, on the 30th of December last, aged 76. Mr. Scheer was born in the island of Rügen, and the first part of his life was spent in Russia in mercantile pursuits; but when still a young man, he took up his residence in England as a City merchant, and for many years lived on Kew Green, where his well-kept garden and greenhouse became filled with new plants imported by himself; and at that period he had one of the largest collections of Cacti in Europe. At Northfleet he indulged in his favourite pursuits of botany and gardening to the full extent his business occupations would allow. The Gesneraceous genus *Scheeria* is dedicated to his memory.

— **MR. ROBERT THOMPSON**, of Chiswick, died on the 7th of September, aged 72. He was born at Echt, in Aberdeenshire, in 1798, and in 1824 entered Chiswick Garden, where for a long period, before his retirement through infirmity about two years since, he held the important position of Superintendent of the Fruit Department. There he acquired a knowledge of fruits and fruit-trees which has probably never been excelled, and which enabled him to produce "The Catalogue of Fruits cultivated in the Garden of the Horticultural Society of London," a most laborious work, and the standard of pomological nomenclature up to the present day. "The Gardener's Assistant," an independent production of his pen, is the best modern compendium of horticulture we possess; while his contributions to garden literature, including our own pages, have been very voluminous and valuable. Mr. Thompson was no less eminent as a meteorologist, the observations at Chiswick having been conducted and recorded by him from 1830 till within a few months of his death. He was indeed one of the most accomplished and useful horticulturists of his time, and one to whom the rising generation is largely indebted. When incapacitated a year or two since by a stroke of paralysis, he retired from the service of the Royal Horticultural Society on full pay. A testimonial fund, which amounted to some £400, was about the same time raised by subscription, in recognition of his services to horticulture.

— **MR. JAMES VEITCH**, of the Royal Exotic Nursery, Chelsea, died on the 10th of September, aged 54, having been born on May 24, 1815. When a youth he was sent to London for two years for improvement, and afterwards devoted his great energies and abilities to the extension and improvement of the Mount Radford Nursery, which eventually became, through his exertions, one of the first establishments of the day. In 1838 he became a partner in the firm of James Veitch and Son, and in 1853, while still a partner in the business at Exeter,—which had then become famous as the first English home of multitudes of new plants, introduced directly by the agency of Messrs. Veitch's collectors, the brothers Lobb,—he removed to London and took possession of the Royal Exotic Nursery, Chelsea. Here he soon raised himself into a very influential position in the gardening world, and built up a gigantic business, sufficient of itself to form a striking monument of success. In 1865 his two sons were taken into partnership, the style of the firm becoming James Veitch and Sons. To show how far our gardens are indebted to Mr. Veitch would be to write a history of most of the new plants introduced during the last quarter of a century by the Lobbs, Pearce, Hutton, John G. Veitch, and others. Mr. Veitch was a thorough cultivator, and as an exhibitor he has had a large share in making our shows the glorious monuments of cultural skill which they are. He died of heart disease, the premonitory symptoms of which had induced him for the last two years to withdraw from active business. Endued with indomitable energy, and blessed with a clear head and sound sense, he acquired great personal influence, and placed himself in the front rank of horticulturists, while his great-heartedness and keen appreciation of sterling worth, secured to him many personal friends, who sincerely mourn his loss.





Harrison's Annie Elizabeth Apple

## APPLE ANNIE ELIZABETH.

WITH AN ILLUSTRATION.

**A**WARDED a First-class Certificate by the Royal Horticultural Society's Fruit Committee, on the 6th of October, 1868,—such is our authority for recording that the variety of which a figure is annexed is one which merits the attention of the Pomologist. We have to thank the raisers, Messrs. Harrison and Son, of Leicester, by whom it is being distributed, for the specimens Mr. Andrews has so well represented in our illustration.

We learn from the Messrs. Harrison that the examples hitherto exhibited of this valuable culinary Apple have been obtained from the seedling plant, which has been once transplanted, so that doubtless it will be seen much finer when obtained from trees properly worked and cultivated. Its pedigree cannot be exactly ascertained, but it is believed to have been obtained from the Bess Pool. The tree is of upright or pyramidal habit, compact, and remarkably sturdy, the bark smooth, bright, and mottled, and the leaves often acquiring very large dimensions. It is, moreover, an excellent cropper, and the fruit is generally of large size, round in its outline, but widest at the base, prominently ribbed or angular, especially towards the eye, which is large, and deeply set in an irregular angular basin; the skin is pale yellow, suffused and somewhat splashed with crimson on the sunny side; stalk short, deeply set. The flesh is white, firm, but crisp and tender, with a fine brisk flavour. It is commendable for its late-keeping properties, the ordinary season for use being from December to June. Specimens gathered in October have been kept good till the following October, twelve months after being gathered, so that we may fairly state, that it is an excellent late kitchen apple, and we learn that when kept till spring is of very good quality for dessert. By the month of April it acquires a more decided yellow colour, with much brighter crimson markings than is shown in our figure, which gives the appearance of the fruit at the time it comes into use. M.

### SEASONABLE HINTS FOR AMATEURS.—NOVEMBER.

**T**HIS is the most disagreeable month in the whole year for out-door gardening, the days being short, and the weather in general cold and damp. The beauty of the garden is gone for the season. The leaves are falling in every direction, necessitating daily attention in sweeping and cleaning up. There are few persons who have not admired the varied and beautiful tints which many deciduous trees present before the fall of the leaf. No grounds should be without some of the more striking and ornamental of such trees, and I would recommend amateurs to take note of and to plant some of them during the autumn; they may be got in considerable variety in all nurseries of any note.

When the frost has destroyed all the summer plants in the beds and borders,

the whole should be cleared away, and the ground dug over and planted with hardy bulbs or spring-flowering plants, as directed last month. Tulips and other bulbs not already planted should be got into the ground before the end of the month. Dahlia roots should be carefully lifted, dried, and stored away in a dry place. All the hardy Roses may be planted, and they should afterwards have a good mulching of rotten dung. This is the best season for planting Stocks for budding next year. The roots of Tea Roses, Fuchsias, *Salvia patens*, and other half-hardy plants, should be mulched with rotten leaves, tan, or dung.

To keep tender plants in health in houses, pits, and frames, particular and steady attention is necessary during this and the succeeding winter months. When plants are exposed during summer to the action of the open air and the variations of temperature, and on the approach of autumn are brought into the greenhouse or pit, the change from the out-door to the in-door atmosphere would injure them, were not the temperature modified and kept as nearly as circumstances will admit like that of the external air. Great care is therefore necessary to preserve plants in health through the winter, particularly for the first few weeks after they are housed. It sometimes happens that when plants that have completed their growth in the open air are housed, they commence a new growth, as if it were spring—to their great detriment, when the proper growing season arrives; this is all owing to bad management. The same thing happens with plants in pits and frames. I would therefore urge on amateurs the necessity of well attending to the following hints:—To give air in abundance, both at the back and front of the houses and pits, when the weather is mild and favourable; to heat the hot-water pipes a little during the day, when the ventilators are open, in order to dry up the damp, in heavy, dull weather—this should not be done at night when the houses are closed, as is too frequently the case; and to water only when absolutely necessary, and then not with a rose, but individually with a small spouted pot, taking care to wet the stages or floor of the house as little as possible. The watering should be done in the morning. Plants in pits and frames must not be left exposed in rainy weather at this season, but every opportunity should be taken to give a plentiful supply of air when the weather is mild and fine.

Soft-wooded plants of all kinds should be frequently looked over, and all decaying leaves should be removed. Hard-wooded plants should have air whenever the weather will permit.

If frost should occur, attention must be paid to the protection of Vegetables in the Kitchen Garden. Cauliflowers in head should be taken up, and laid in by the heels in dry soil, protected from wet. Globe Artichokes should have a good coating of dung around the roots. Celery should be earthed up when dry. Every preparation should now be made for winter. It is a common custom to sow Peas and Beans about this time on a warm border, but they are subject to



so many casualties during the winter, that it is much better to sow early in spring, in pots and boxes under glass, and transplant when cold weather is past; those, however, who have not the means to follow this method, should sow now in the open ground. Carrots, Parsnips, and Beet, if not already lifted, should be got up, dried, and stored away. Cauliflower plants in frames and under glasses should have plenty of air in fine weather. All vacant ground should be dug or trenched, when dry.

In the Fruit Garden, the pruning of all hardy fruit trees should be commenced, and as much of it as possible got through before severe weather sets in. As this month is for general purposes the most eligible in the whole year for planting, I strongly advise amateurs intending to plant to get it done as soon as possible, taking care to attend to the drainage and preparation of the borders, as recommended last month.

*Stourton.*

M. SAUL.

### FRENCH *v.* ENGLISH GARDENING.

**A**S compared with French gardens, we find in Battersea Park equally good Musas, better Tree Ferns, and a greater variety of Tropical plants, with all the other French subjects in quantity. There is also—and this is its great charm—a mixture of English flowers, for here and there are beds of the newest and most popular Pelargoniums, as well as ribbons of the most effective of such plants in common use, and these in every way as gay as any to be met with even in the places most noted for such displays. We find here, besides, a feature peculiar to the place, and that is, the effective use of succulents and dwarf varieties of herbaceous plants, never at any time before, to my knowledge, attempted to be made useful in the same way. That they are made so I think no one will deny, and the sooner our friends over the water use more of such subjects the better. Most of their own people with any taste are becoming Canna-sick.

ANON.

### ENGLISH-RAISED ROSES.\*

**M**Y first attempt at crossing the Rose was made in 1843. I crossed three flowers of the Tea-Scented Rose known as Goubault with the Bourbon Rose Souchet, with the view of obtaining a dark-coloured Tea-Scented Rose. Let me call these flowers C, D, and E. C produced a very large pod, which ripened perfectly, and gave 10 large seeds. D produced a medium-sized pod, with 9 seeds of very unequal size, one being very large, four large, and four small. E produced a small pod, which contained 13 small seeds. Of these 32 seeds four only germinated! Three of the plants were curious cross-breeds, of no floral value, and having little in common with either parent; and one, in

\* Extracted from a paper on the Improvement of Plants, read before the Royal Horticultural Society at the Manchester Congress, July, 1869.

leaf, habit, and flower was very similar to the wild Dog Rose! I was here, no doubt, unfortunate in the choice of my parent or parents, and regard this issue as an instance of the well-known tendency which the offspring of some cultivated plants have of reverting to the normal form. The same year I crossed about 40 other flowers, but the crop of seed was indifferent, and the result nothing worthy of record.

This non-success led me to submit to microscopical examination the flowers of a number of varieties of the Rose, with the view of ascertaining which were likely to prove the best seed-bearers. The result of that examination is given in the *Rose Garden* (2nd ed., pp. 96, 97). The conclusions I drew were:—1st. That certain varieties are sterile, incapable of forming perfect seeds under any circumstances. Of these I found such kinds predominate as roll the petals inwards, the centre of the flower being quartered in the manner of a crown. In others the pistils were weak or imperfect. 2nd. That many kinds where the pistils are perfect, which in their natural state form seed-pods that wither before arriving at maturity, may be induced to perfect their seeds by artificial fertilization. This class of Roses is the best for him who intends raising seedlings to choose his female parents from, because there is little here to interfere with, mar, or counteract his plans. 3rd. That those kinds which we find seeding abundantly in their natural state are self-fertilized, and that their abundant production of seed is due to this point, namely, the more perfect development of the organs of reproduction, especially the polleniferous parts of fructification.

Thus fortified, I selected some 20 sorts of Roses, planted them in a separate corner of the nursery, and in the month of June, 1846, crossed nearly a thousand flowers. Success in seeding was complete. On the 30th of September of that year I gathered 223 well-ripened pods of seeds, some of them of extraordinary size. Two successive gatherings, of about 100 pods each, were made at intervals of about a month, the whole number of hybridized and crossed pods gathered and stored amounting to 444. The seed was sown the same winter, vegetated during the succeeding spring and summer, and the seedlings bloomed at intervals over the next six years—that is to say, some bloomed the first year, others were six years old before blooming. The result of the hybridizing and cross-breeding was apparent in many cases, but not in all. Two of the most striking and complete I will describe.

I had long thought that a bright dark-coloured climbing Rose was a desideratum, as at that time nearly all our climbing Roses were white or yellow. To obtain this I hybridized the Rose Athelin (Hybrid Bourbon) with Russelliana (Multiflora). Paul's Vivid, a bright crimson climbing Rose, of great repute in its day, and even now sought after, was raised from this effort. Again, I had conceived that if anything could add to the beauty of the Moss Rose, it would be to impart to it the exquisite tint of the R. Alba or Maiden's Blush. To obtain this, I hybridized the Moss du Luxembourg with an Alba Rose, and among the

offspring was a Moss Rose, with flowers like the Maiden's Blush, and which was afterwards named Princess Alice.

A few years later I raised from one and the same sowing of English Rose-seed, the Roses Beauty of Waltham, Lord Clyde, Red Rover, Globosa, Princess of Wales, Dr. Lindley, and, I believe, Duke of Edinburgh. Unfortunately in these cases the parentage of the offspring was not preserved.

*Waltham Cross.*

WILLIAM PAUL.

### THE VINE DISEASE.

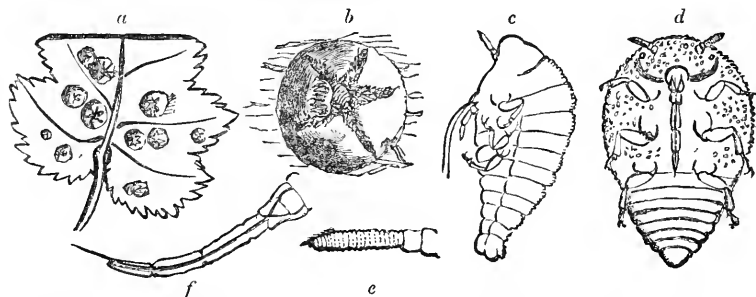
SO long since as 1863, the Vines in certain English gardens were observed to be infested with minute excrescences on the surface of their leaves. On careful examination these gall-like bodies were found to be caused by the irritation arising from the puncture and sucking of the tissues by a minute insect, related to the aphides. Subsequently, in 1867, a disease in which the roots were affected by similar gall-like tubercles was noticed in the *Gardeners' Chronicle*. This latter affection would appear to be the same as that which, under the name of Etisie (consumption), was observed in 1865 in the South of France, and which devastated the vineyards of that country to such an extent that a commission was appointed to inquire into the matter, with the result that the malady was found to be attributable to the presence of a hitherto unknown insect, *Phylloxera vastatrix*, of which an account has since been published by M. Planchon, in the *Comptes Rendus* for 1868. Whether or no these two forms of disease are attributable to the same insect, has not yet been positively determined; but it is at least believed, that if not identical, the insects which give rise to them are congeneric.

Professor Westwood has given in the *Gardeners' Chronicle* of the present year (p. 190) a *résumé* of his observations, accompanied by figures, from which we make the following abstract:—

In the autumn of 1867, and during the past year, my attention has been directed to this insect, which appears to have become extensively disseminated, and has exhibited its powers of mischief in a most unlooked-for manner, since not only have further specimens of infested vine leaves been received, but portions of the roots of vines have been sent from different quarters, the rootlets of which had been sucked by a wingless insect, which cannot in any manner be distinguished from those of the galls on the leaves. From Cheshire I received in September, 1867, leaves from a young vine, growing with many others in a house 72 ft. long; it was the only one attacked, having previously made 14 ft. of wood since it was planted in the February preceding, and the insects were only found in the young leaves within five feet of the top. In the following month the same correspondent sent rootlets from his vines, attacked by the same insect. In the latter mode of attack the perfect insect makes a wound in the delicate rootlet, by inserting its rostrum into the wood, and sometimes this is so firmly imbedded as to remain in its position when the insect is removed; decay is thus induced, which penetrates in the form of little cankerous spots, and sometimes extends to the centre, cutting off the supply of nourishment. Diseased specimens have subsequently been received from other correspondents in different parts of England and Ireland.

In the spring of last year (1868) I communicated to the Ashmolean Society of Oxford a notice (accompanied by highly magnified drawings, which are reduced in the accompanying woodcuts) of this insect, which I then proposed to name *Peritymbia Vitisana*, in allusion to the tomb-like galls formed on the leaves by the females.

The engraving represents at fig. *a* a portion of the upper side of a vine leaf greatly reduced in size, with a number of the gall-like excrescences, also slightly reduced. These excrescences are thickened portions of the leaf, the under-side of each being swollen into a convex shape and entire, the female insect being enclosed within the cell thus formed, the upper surface of the leaf throwing out or splitting into triangular portions, as represented at fig. *b*. The extremity of one of these portions is turned back so as to show part of the body of the female within the gall, surrounded by its eggs. The full-grown insect (scarcely half a line, or 1-30th of an inch in length) is represented on its ventral surface at fig. *d*; its body is swollen and fleshy, and covered with minute granulations; the antennæ (fig. *e*) are short, composed of only two very small basal joints and a longer apical one, having apparently a very minute setiferous tubercle at its extremity, the long joint appearing under the microscope to be formed of a great number of very short rings; the sucker (fig. *f*) is distinct, four-jointed, and varying in length. The insect shown at fig. *d* is a female taken from the leaf-gall, whilst that at fig. *c* represents one of the females from the root seen sideways.



M. Planchon, who has discovered both winged and wingless females, describes the latter as being little ovoid masses, closely applied to the vine roots by their flattened ventral face, the dorsal face being convex. During the first few days after being hatched, the young insects wander about in search of a favourable place to fix themselves, and they generally select an opening in the bark where they can easily dive into the cells of the young juicy tissue. The *Phylloxera* is distinguished from *Aphis* by the horizontal position of its wings. Though the winged individuals may serve to extend the range of the destructive pest, yet M. Planchon believes that the wind is the principal dispersing agent, while the wingless individuals are supposed to spread along the surface of the ground to adjacent vines, and then to penetrate to their roots.

As to remedies, a Bordelaise cultivator, quoted by *Les Mondes*, recommends a composition containing sea-salt. M. Naudin, in a communication to the Academy of Sciences, suggests the planting along with the vines of certain herbs or bushes, "several times renewed if necessary, until something may be discovered which may attract the insects from the vines,"—an experiment which may possibly involve a long series of disappointments. A more speedy cure is reported to the *Indicateur Vinicole*, by Dr. Desmartis, in these terms:—"In the vineyard whence I have sent samples of the parasite, there were in the spring 60 stocks attacked with consumption. They were dressed with earth mixed with coal-tar, in the proportion of 8 or 10 per cent. Fifty of these have perfectly recovered, and ripened their fruit, five are doubtful, and the rest have succumbed to the malady." Dr.

Desmarts states that both eggs and perfect insects of the Phylloxera have been also found on the leaves, an observation which goes to confirm the identity of the root and leaf maladies. M.

### THUJA LOBBII AS A HEDGE PLANT.

IT may be a wrinkle to many nurserymen and gardeners to know that this fast-growing conifer makes the best of all evergreen hedges. The American *Arbor-vitæ* is universally used by nurserymen to form hedges to shelter their finest half-hardy plants and shrubs, but *Thuja Lobbii* (= *T. gigantea*, Nutt.) grows quicker, is more compact in habit, and keeps its fine green colour all winter. A few years ago I raised a quantity of *Lobbii* seedlings from imported seeds, and having a very exposed quarter in the orchard that wanted shelter, I had a hedge of them planted out. This hedge is now about ten or eleven feet in height, has never been clipped, but is quite compact, and I am glad to see a quantity of small cones on it this year, which, if they produce good seeds, will enable me to raise young plants. For growing into specimens, I likewise believe *T. Lobbii* will yet be found to be the best of all the *Thujas*—from its fine habit and its beautiful green foliage.

Having an immense quantity of *Cupressus Lawsoniana* raised from seeds grown here, I have likewise tried these for making evergreen hedges in the kitchen garden, and they seem to bear clipping well; and being of such rapid growth, they will form a good sheltering hedge in three or four years. This fine tree bears seeds at so young a stage, that seedlings may now be raised as plentiful as larches; it is therefore worthy of a trial for forming evergreen hedges in nurseries and gardens where shelter is wanted.

Welbeck.

WILLIAM TILLERY.

### EARLY SPRING-BLOOMING SCILLAS.

SOME time since (1868, 206) we quoted some remarks of our contemporary the *Gardeners' Chronicle* relating to the early Vernal Squills, and we now add some further notes from the same source, founded on a collection of bulbs consisting of 14 varieties, communicated by Messrs. E. H. Krelage and Son, of Haarlem. They are all referrible to one or other of the three following species—*S. bifolia*, *S. sibirica*, and *S. amœna*, and the newer forms are seedling varieties of the first named. They are here commented on in the order in which they came into flower, growing side by side under equal conditions. In the several forms of *S. bifolia*, the bulb varies, yet the differences in that organ are of a much slighter character than those afforded by the leaves, and especially by the flowers:—

*Scilla bifolia* var. *pallida*.—This was the pioneer of the group, being in bloom by February 14. It appears to be distinct, the flowers growing in racemes of seven or eight on very long stalks, and of a lavender-blue colour, the anthers being of a dark slaty-blue; ovary slightly tapering at the apex.

*Scilla bifolia* var. *maxima* (*S. grandiflora maxima*, *Krelage*).—In bloom February 17. A very handsome variety, differing from the others in its larger flowers; the leaves, too, are almost as broad as those of *S. sibirica*, and are bright green; the scape bears a raceme of 11 to 15 flowers, of a rich porcelain blue, the lower ones on long stalks; when expanded, they are nearly an inch across; ovary somewhat rounded at the apex.

*Scilla bifolia* var. *compacta* (*S. præcox*, *Krelage*).—In bloom February 24. This is quite distinct from any of the varieties cultivated under the name *præcox*, and from its densely-packed flowers may be named *compacta*. The leaves are comparatively narrow, purplish-green, and with a shorter point than most of the others. The flowers are borne in a dense raceme, and are all turned to one side, the lower stalks not being much longer than the upper ones; the flowers are about half an inch in diameter, of a pale slaty-blue colour; ovary subglobose.

*Scilla bifolia* var. *metallica*.—In bloom February 28. A fine variety. The leaves are rather broad, and purplish at the edge; the scape bears a raceme of 8 or 9 erect flowers, the lowest on long stalks; the flowers are nearly an inch across, with the segments azure blue at the tips, shading off into violet at the base, and having a metallic sheen which renders them very attractive; ovary oblong, obtuse at the apex.

*Scilla bifolia* var. *alba*.—In bloom February 28.—Identical with the form cultivated in English gardens under the same name.

*Scilla bifolia* var. *rosea*.—In bloom February 28. Identical with the var. *rosea* of English gardens.

*Scilla bifolia* var. *grandiflora*.—In bloom March 6. The leaves are narrow, with purple edges. The scape is 3-flowered, the lowest flower on a long stalk; and the flower a rich cobalt blue,  $1\frac{1}{4}$  inch in diameter; ovary oblong, obtuse.

*Scilla bifolia* var. *carnea*.—In bloom March 6. Sent under the name *rosea*, but has smaller flowers, and appears to be the same as *carnea*.

*Scilla bifolia*.—Identical with the plant itself so called in most English gardens. Came into bloom March 6.

*Scilla sibirica* var. *albo-striata*.—In bloom April 11. A slight variation from the ordinary *S. sibirica*.

*Scilla amœna*.—In bloom April 15. Two slightly different forms of this species were sent under the erroneous names of *S. hyacinthoides* and *S. sibirica*.

## EFFECTS OF ACCLIMATIZATION.

### SPARROWS AND RABBITS.

IT appears from Mr. Tillery's remark (p. 172), that Sparrows have become a pest in Australia. Have they destroyed all the insects, and taken to the crops to prevent starvation? If so, it might be well to establish sparrow clubs, which used to be general in the rural districts of England a few years ago. In one district I recollect the club was dissolved when there were no more birds to kill; but I question, on careful observation, if all the mischief set down to their account could be fairly traced to the sparrows, and certainly not without a counterbalance of much good effected by them. A few years ago the beautiful avenues of trees in the streets of New York and Brooklyn were so much infested with insects, that many were stripped of every leaf, and the passers-by were covered with vermin and filth. The sparrow was imported, and fed, and miniature houses were built in the trees for them to roost and to feed in, and they were taken as much care of as an English lord's tame pheasants. Mr. Sparrow, of course, made himself quite at home at once, and repaid his importers by making general war against the leaf-destroying insects, and now the trees are gaining their original verdure. It has yet to be proved if the birds will become a

nuisance at some future date ; but I think even a little mischief may be allowed, considering their very great service.

As regards Rabbits, I should have thought the Australian settlers would have been only too thankful there were none in the country, and would not have taken the trouble to introduce such unmitigated vermin. I can only liken such a proceeding to that of the countryman in the fable bringing the almost frozen serpent home to be warmed at the fire, or the patriotic Scot who introduced the national emblem into Canada. One might be disposed in both cases to say, "Served them right!" were it not that the country generally suffers.

*South Amboy, New Jersey.*

JAMES TAPLIN.

### THE EARLY ROSE POTATO.

MUCH has been written of late respecting this American variety of Potato, and its productiveness. In April last I purchased 1 lb. (four tubers) of this variety, from which I made 132 sets. The following is the method I adopted. The potatoes were cut into halves, planted into small pots, and placed in a cucumber frame. When the shoots attained the length of about 1 in., I gently pulled them off, and placed them singly in small pots, and this practice I continued until I made the quantity stated above ; 68 sets were planted out by the end of May, and were totally destroyed by frost on June 1, before they had commenced to tuber. The remainder were planted at the end of June, and from these I have upwards of 100 lb. of tubers, some of them being very large. Some of these were exhibited in my collection of eight varieties that obtained the First Prize at Worksop on September 3, and they were greatly admired. I have no doubt that had my first row not been destroyed by frost, I should have had more than 200 lb. weight from a single pound of tubers. The quality is very good ; but, as with other potatoes, this will vary according to the nature of the soil.

*Osberton.*

EDWARD BENNETT.

### VANDA DENISONIANA.

WE have here a white Vanda, found by Colonel Benson in Burmah, introduced quite recently to the collection of Messrs. Veitch and Sons, and dedicated by Professor Reichenbach to Lady Londesborough, "in appreciation of Lord Londesborough's great and generous love for orchids."

The habit of the plant resembles that of *V. Bensoni*, but the plant is more vigorous. The leaves are glossy, strap-shaped, with the attenuated apex unequally bilobed. The racemes bear several flowers, of which the leathery reflexed cuneate-oblong sepals and petals are milk-white, pale yellowish-green at the apex, and the broadly pandurate lip is also white, with a stain of yellowish-green at the apex, and another of deep orange round the mouth of the spur. The auricles at the base of the lip are quadrate, while the anterior is bilobed and subhastate, but bearing less resemblance to a heathcock's tail than the lip of *V. Bensoni*. A

peculiar feature is, that the superior limb of the anterior part has a very callous line springing from it, and there are five elevated ridges on the disc of the lip,



and a little bilobed callus at its base; the conical spur is very short, velvety inside, while over against the mouth of the spur stand two parallel oblique rows of brown points. There can be no doubt that this lovely plant will create a sensation among amateurs. We learn from the Messrs. Veitch that it appears to be a free flowerer. M.

### BIGNONIA RADICANS.

**N**OW rarely one sees this fine old climbing plant now-a-days! I do not remember to have met with it in any place in Yorkshire that I have visited. There is a plant of it here, growing against the wall in the kitchen garden, at the end of a range of Vineries. It is an old plant, and has been in its present place for a number of years. The only attention that is given to it, is to prune it in to an eye, like a vine, every autumn after the fall of the leaves. It is perfectly hardy, having stood the severe frost of December, 1860, without protection, when hundreds of common Hollies were killed to the ground. This



plant is a beautiful object every year during the months of August and September, when it is covered with large bunches of its orange-coloured, trumpet-shaped flowers.

The *Bignonia radicans* is a free and rapid grower, and when encouraged will spread to a great distance, and rise to a great height, in a few years. It is well adapted for covering unsightly buildings. It is freely propagated by cuttings or layers. Old plants also throw up suckers from the roots, which may be taken off and planted at once where they are wanted. When established, the only attention they require is in the autumn or winter to cut away all the small, weak shoots of the former year, and shorten the strong, leading ones to two or three feet. When the plant has filled the space required, all that is then necessary is, after the fall of the leaves, to spur-prune like a vine. It is surprising that this fine old plant, which will stand our severest winters in the open air against a wall without the slightest injury, should now be so little grown. No garden should be without it.

*Stourton.*

M. SAUL.

### THE CHILDREN'S GARDEN.

**A**T the Manchester meeting of the Royal Horticultural Society, Mr. W. E. Rendle exhibited a variety of forms of miniature glass houses, with hollow brick walls, put up without mortar, and roofed with sheets of glass, without any framework of either wood or iron. The patentee offers them for the growth of Seedlings, Salad herbs, and Strawberries, and alleges that Grapes, and even Pine-apples, may be grown in them. What they are capable of accomplishing in that way it is not my intention now to inquire into, but it does not appear to have entered the mind of the inventor of these miniature hot-houses that children would play at Gardening with such handy materials, just as they play now at Housebuilding with a box of wooden bricks.

There are few of us who have grown old in gardening who have not at one time or another been confronted with the Children's Garden, either as a weed or as a flower, in our path. I have bright recollections of young ladies' flower-gardens, where the narrow walks were edged with Box, and coated with yellow sand, and the beds carefully blackened by finely-sifted peat earth, and where many a fine old favourite flower had still its claims allowed; but the great difficulty was how to propagate by cuttings flowering plants that would not otherwise increase, except by the slow process of dividing the roots. What a boon one of these small propagating pits would have been to such a garden,—so easily set up, so easily shifted, and withal so cheap. It makes the wheels of Horticulture drag heavily when the young gardeners are unable to propagate their pet plants, and hence the need of Plant Protectors. In my boyhood I found out this fact, and felt the difficulty keenly, for I was an amateur at twelve years of age, and had a nook in my father's garden for the pursuit of horticulture, long before I got my

daily bread by the "harmless art." Very few persons can enter into the feelings of the boy gardener when he first sees what can be done under his glass frame of 2 ft. square—that was the length and breadth of my one-light box; but it turned the pelting rain and pitiless storm aside, and by its aid a slip or cutting from the *Pelargonium* of a neighbour would strike root rapidly, and become in a few weeks a flowering plant, with all the charms of its being the produce of my own skill and management. A person may buy game at the stall of the "licensed dealer," but what is that to grouse-shooting on a moor at sunrise? Trout, too, are to be had readily at the fishmonger's; but angling for live trout is quite a different affair, and the sportman's success is never to be measured by the market value of his "creel." I recollect fitting up a boy's rod and line for the river for the first time in his life, and when he had caught a fish he danced for joy on the shingle; his ecstasy was so well acted, that Garrick might have envied him; he did it to the life. One never forgets to the end of one's life the pleasures that gladdened youth; they are literally "a joy for ever."

The Wardian Case is a drawing-room article, and has brought the graceful Fern to the bedside of the invalid in all its loveliness; it has, besides, added a charm to the homes of hundreds, and I see no reason why this cheaper article of plant protectors should not be set to work, not for the garden of the well-to-do man, but for the window-sill of the weekly tenant, and for the flagstone on the top of the brick wall that divides one yard from another, and all this without losing sight of the services they can render to Children's Gardens, where anything in the way of flat earth can be had for plants to root in. As an example of the cost of a nice little glazed brick pit or frame, I may state that for about 8s. one may be had complete, 48 in. long by 18 in. wide, and about 1 foot high at the back, and 8 in. high at the front, and all this with nothing that can ever rot or get out of repair, while the whole thing could be rebuilt when necessary in the dinner-hour. What treasures these might contain of the smaller kinds of hardy and half-hardy ferns in gardens where the rays of the sun can hardly penetrate; and in sunny places what might not one do with early Violets and Fairy Roses, with the idea before one's mind that Tree Violets are sold in pots little larger than a duck's egg, with 6 or 8 full-blown flowers on each plant, and Fairy Roses have been grown and flowered in the soil contained in a walnut-shell. The youthful tenant of such a tenement would learn the nature of plant life from his failures and successes in his school-days, in a way never to be forgotten, and his powers of observation would be sharpened by the risk he is ever running of danger from within as well as from without. For example, when a snail or slug has made an early breakfast of a choice flower, how the boy will feel his wits set on edge to find out where such robber rests at noon, for when Jonah grieved for the loss of his pet gourd he left many imitators! Boys who are ever likely to become gardeners should begin early to plant and sow, and try their hands at propagating, for the longest life is all too short to learn half that they need to know; but next to

unwearied perseverance in the way to secure success, is beginning young, for in this way they will learn to love the business, and to excel in it, not for its rewards, but for itself.

*Islington Square, Salford.*

ALEX. FORSYTH.

### BOUGAINVILLEA GLABRA.

THIS is a handsome plant for decorative purposes, for even plants of small size will bloom well, if properly managed. Young plants should be grown freely on throughout the summer, and should not be shaded at any time, as it is most important to grow the plants well exposed to the sun, in order to produce stiff, short-jointed wood. For potting this Bougainvillea, use good fibry peat and yellow loam, in the proportion of three of the former to two of the latter, adding a liberal quantity of silver sand. Provide good drainage, pot moderately firm, and place the plant in an ordinary stove temperature. Attend well to watering, and endeavour to keep the plant growing until the end of September, when water at the root should be gradually withheld until the whole of the leaves fall off. After this, merely give a little water occasionally to keep the wood from shrinking. Keep the plant in this state until February, when it should be again started into growth, and if others are started at intervals of three or four weeks, a succession of bloom may be kept up for three or four months. As soon as the plants are out of bloom, give them a shift, and treat them as above recommended. By this treatment fine specimens may be grown in three years.

*Somerley Gardens.*

HENRY CHILMAN.

### ON THE PROPAGATION OF DRACÆNAS.

TRUSTING too implicitly to the dicta of science, observes a recent French writer, gardeners had long considered it almost impossible to propagate any arboreous monocotyledons by cuttings. These plants, they were taught, differed essentially from dicotyledons in not producing branches; and how were plants to be propagated which did not give branches? If cut, the head, it was said, would not advance, and if the terminal bud were destroyed, the tree would infallibly perish.

But science is sometimes mistaken, and practice comes in to destroy without remorse the foundation on which some learned theory reposes. In this case, practice vouches that monocotyledons possess, in the axil of their leaves, an eye which, when favoured with nourishment, gives forth a bud, as capable of forming a branch as the bud of a willow. This eye, however, generally remains latent. The whole secret of success is to excite its vitality.

And this, in practice, is thus accomplished:—The stem of the *Dracæna* is cut into pieces of from 4 in. to 6 in. long, and these pieces being laid horizontally in a hot-bed or a propagating pit, and covered with light soil, push out in a very

short time numerous buds, one from above the scar of each leaf. These form young shoots, which, when an inch or two in length, are taken off with a little heel, and planted as cuttings in sandy earth. They are kept rather close, and under such conditions soon produce roots, and form independent plants. The same mode of propagation may be adopted with any plants of similar habit. It is, in fact, often had recourse to in the case of *Yuccas*. G.

### HARDY CLEMATISES.

THE great merit of these plants for flower-garden embellishment has been frequently commented on. Having recently seen several instances of beds planted with the new varieties of *Clematis*, I can add my testimony to that of those who have pronounced these hybrids to be most valuable acquisitions. From their hardiness, and their adaptability to the many purposes of garden ornamentation, they assuredly merit an extended cultivation; while as additions to our materials for bedding-out, they are invaluable.

In the garden of Mr. Essington, Ribbesford House, Bewdley, there are two magnificent and noteworthy beds which, when I saw them (September 6), were apparently in the height of blooming. It is difficult to imagine anything more strikingly beautiful than they were, or anything that could produce a more gorgeous effect. Being associated with the general arrangement of bedding plants, the superiority of the *Clematis* was very apparent, the purple bedders being altogether eclipsed by the masses of rich violet purple of *C. Jackmani*, which is one of the best for bedding purposes.

The beds were round, about 15 ft. in diameter, and well raised towards the centre. In the centre of one bed, which was planted in 1867, a few stakes about 8 ft. in height were placed, and these being well covered with the *Clematis*, formed a perfect floral pillar, which gave a good effect. The other bed, planted in November, 1868, was equally good. The plants were planted at about 2 ft. apart, and were carefully trained. Some attention is necessary in regard to training, for if the shoots are allowed to become entangled, it is afterwards difficult to get them apart, so as to maintain the perfect proportions of the beds. At Ribbesford this had been scrupulously attended to. The plants are annually cut down, and the beds well manured. The soil they do best in is a light sandy loam, well manured, and liberally watered during the growing season, for on maintaining the plants in a growing condition for the greatest length of time possible, depends in a great measure the continuity of bloom.

The idea is entertained by many that the blooming season of these plants is not of sufficient duration to warrant their adoption for bedding purposes. In this doubt I frankly own to having been at one time a participator, having formed but a vague idea of their capabilities, but I have learned that by judicious treatment the season of flowering may be so prolonged as to do away with any objection on that point. To those who still doubt, I would say give

them a trial, for those who have not seen them well done, must find it difficult to conceive the great beauty of these Clematises. The varieties are many in number, and various in colour.

*Witley Court.*

GEORGE WESTLAND.

## EPIPHYLLUM TRUNCATUM: STOCKS, TRAINING, ETC.

**COMING** into flower naturally at the dead season of the year, and continuing in perfection long after being cut, few subjects excel this plant for decorative purposes, whether in hothouses or drawing-rooms. The blossoms are equally useful for bouquets, but for this purpose they must be mounted on wires at the point of junction with the plant.

It is generally taken for granted that the whole of this race of Epiphyllums should be grafted. However well they may grow and bloom on their own roots, they are apt to assume a squatty and inelegant form, and to hide the beauty of their pendent blossoms in a tangled thicket of shapeless growth.

One of the simplest means of preventing this is to plant them thickly over the entire surface of the pot, so as to cover the whole with a series of small plants, instead of having one only in the centre. The result is that each plant supports its neighbour, and, as each extremity would be a flowering shoot, the general effect is as if each pot were filled with a perfect-shaped plant in full blossom. A great objection to this mode of growth is the flatness of outline that it necessarily induces. This may be obviated by using older and taller plants for the centre, and newly-struck cuttings for the sides of the pots. By a wise selection of graduated lengths, an elegant pyramid may thus be formed.

Another mode of securing the same object is to choose any number of different-sized pots, drain and half fill them with compost, and then arrange them from the base upwards, one above and within the other. The inequality of size will thus leave vacant rings for the reception of the plants. A 12-in. pot as a foundation, finished off with a 2-in. crowning summit, arranged either in regular gradation or intermittently, forms a massive unity of singular beauty. The Epiphyllum seems to enjoy these restrictive rings amazingly. The roots hug the sides of the pots with great tenacity, and very soon the entire pyramid is clothed with vigorous growth, and enwreathed with the loveliest flowers. It may be well to add that the furnishing of such pyramids begins at the top, and is completed at the base. The plants thus escape injury or being soiled during the operation of potting. They must also be potted very firmly, and when all is completed have a thorough soaking of water. This ring-culture necessitates at all times careful and thorough watering. Each ring being quite independent of the others for its supply, it must be watered with the same care as if it were a distinct pot. It is very provoking to have a fine mass spoiled for want of attention to this simple fact. One point more needs attention. It is necessary to guard against the possibility of the pots or pans shifting their position when

the plants are turned round or removed from place to place. To render this impossible, a stout bar of iron (previously dressed with Stockholm tar, to prevent corrosion) should pass up through the bottom of all the pots. This will ensure stability, by binding firmly into one, the entire structure from base to summit.

Epiphyllums are also peculiarly adapted for the furnishing of brackets and baskets, and for the filling of pockets for the illumination of dead walls. Occasionally, too, they form very pretty dwarf plants, in 6-in. or 8-in. pots, resembling at times tiny parasols, with running streams of the loveliest inflorescence flowing off from each pendent extremity.

Nevertheless, grafted plants are the most popular. This operation raises them at once to a higher level, from which, as a vantage-ground, they can the better unveil their peculiar beauty. The character of their growth and the structure of their flowers alike invite for them an artificial elevation. The ease with which they will take on almost any stock has also favoured the practice of grafting, while it probably may have prevented us discovering the best possible stock. I believe they will grow on any Cactus, but I have chiefly used only two stocks. I hope Mr. Buckley will supplement his valuable paper in last year's *FLORIST* (p. 13) by giving the results of his more extended experience on this very important point.

The *Cereus speciosissimus*, while one of our grandest Cactuses in itself, seems formed by nature for a support to all the weak members of its glorious family. It is distinguished by three of the most vital characteristics of a good stock. It is strong, it grows freely, and it is long-lived. It seems made to carry a burden. It will support almost any weight of Epiphyllum at any desired height with evident ease and conscious dignity. And then it grows with the freedom of a weed, and the vigour of a giant; and who ever heard of its dying? It can scarcely be destroyed, unless by frost; and it will endure a temperature as low as 40° Fahr. with impunity, which is 5° lower than the Epiphyllum likes to be subjected to. The strength of this noble *Cereus* enables it to scorn the help of artificial props. Worked on the top of this *Cereus*, the Epiphyllums form beautiful standard or umbrella plants; inserted all the way up the stems, they can be made into nice, narrow pyramids. There is one objection to this stock, more theoretical, however, than practical. Its natural period of blooming is four or six months later than that of the Epiphyllum. Still it never seems unwilling to be forced into growth at the demand of the scion, nor, as far as I have observed, has it ever refused to supply food to meet the wants of its adopted children.

Still, for my large plants I prefer a different stock, which lacks all the robustness and the strength of this grand *Cereus*. This is the *Pereskia* or *Peirescia aculeata*. It roots and grows freely, and unless for stocks, is of no use whatever. The Epiphyllum takes readily upon it, although not so freely as on the *Cereus*. The *Pereskia* has but little strength in itself; its merit lies in its pliability; it can

be twisted and bent in any direction. Hence, for large plants, whether for training over any form of trellis, for enwreathing pillars, festooning girders, or for covering bare walls, the flexibility of the *Pereskia* entitles it to the first rank as a stock. I have also seen it used for a dwarf standard, but the plants require other support, and it is not equal to the *Cereus* for such purposes.

Perhaps the best mode of getting up fine plants of *Epiphyllum* from 4 ft. to 6 ft. high on the *Pereskia*, is to obtain old plants, no matter how long and straggling they are, to pot them in 12-in. pots in the compost Mr. Buckley has indicated, and then to fix a strong iron trellis on to the rim of the pots. I prefer a trellis of pyramidal shape, 5 ft. or 6 ft. high; but the only points about this, however, that are vitally important are,—that it shall be strong, that it be fixed on to the pot, and not in the soil, and that it be well painted three or four times, and dried very hard. It will have to bear the entire weight of the plant, and, as there will be no opportunity for another coat of paint for many years, every precaution must be taken to guard against the evils of corrosion.

Having fixed the trellis, proceed next to train the stock. Cover the bottom thoroughly first, and then train the stock over the rest of the trellis. If possible, plunge the plant into a bottom heat of  $70^{\circ}$ , and maintain an atmospheric temperature of from  $55^{\circ}$  to  $65^{\circ}$  or  $70^{\circ}$ . Then, at intervals of 6 in. or a foot all over the stock, and on the ends of every shoot, insert the scions. On the small branches, about an inch long will be large enough for them; on the larger branches larger scions will, of course, be used. Nothing can be simpler than the grafting. Form the ends of the scion into a wedge, cut a small opening into the side or the end of the shoot of the stock, and fix the scion in its place with a spine of the *Pereskia*, and the operation is complete. In a humid growing atmosphere the scions will take at once. This process of grafting may also be more continuous with the extension of growth, for the scions will take at any period under this tropical regimen, but as soon as the plants are furnished all over, the forcing and forming pressure may be removed, and the future culture glide into that already described by Mr. Buckley. I hardly think, however, that *Epiphyllum* on the *Pereskia* will ever bear greenhouse treatment. This stock seems somewhat more impatient of cold than the *Cereus*; the plants suffer in health and the flowers in brilliancy of colour, if they are subjected to less than  $45^{\circ}$  of heat. They well deserve, and they do best in, an intermediate house, ranging from  $55^{\circ}$  to  $60^{\circ}$ . Under such favourable circumstances, nothing can exceed the gorgeous beauty and elegant gracefulness of these plants. Pyramids 6 ft. high and 4 ft. through, clothed with delicate blossoms from top to bottom. are sights sometimes to be seen, and they are sights to be remembered and admired for ever. Few plants can lighten the darkness and dispel the gloom of the dull winter season so effectually as these *Epiphyllums*, while their cheapness and the simplicity of their culture bring them within the reach of every cultivator.

*Hardwicke House.*

D. T. FISH.

## BLUE HYDRANGEAS.

SOME attention is just now being turned to Blue Hydrangeas, and the cause of the flowers assuming this tint. I have recently returned from a tour in Ireland, and in the course of visiting some of the gardens that came in my way, I found many examples of blue-flowered Hydrangeas, especially in the southern districts of that country. At one place in particular, in county Waterford, namely, Messrs. Grant's, Kilmurrey, near Cappoquin, there were to be seen some magnificent bushes of Hydrangeas, planted—so Mr. Grant informed me—more than forty years since. There were masses of bloom to be seen on the occasion of my visit, but a large proportion of the flowers were beautifully tinted with blue. Oxide of iron largely prevails in the soil in this part of Ireland, and to the presence of that salt, no doubt, may be traced the blue tint in the flowers. This, at any rate, was the opinion of the leading horticulturists of the district. Cuttings taken from branches wholly bearing blue flowers produced only pink blossoms when blooming in pots; but when planted out in the open ground, in the course of two or three years, when the roots began to penetrate the soil, they yielded the blue tint, as in the case of the older plants.

At Muckcross, the residence of Captain the Hon. A. Herbert, M.P., on the banks of the Muckcross Lake, Killarney, the Blue Hydrangeas were quite a feature in the fine grounds surrounding the house. This was about a hundred miles west of Cappoquin, and yet the same cause was assigned. If the blue could only be retained under any circumstances of cultivation, it would be a real acquisition. At present, it appears to be beyond the range of practical horticulture to obtain this fixity of character. Qto.

## THE CURRANT-BUD DISEASE.

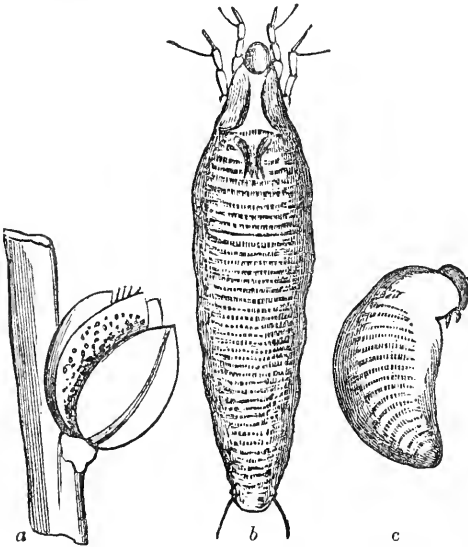
ATTENTION has during the last few years been directed to a disease to which the buds of Black Currant trees are subject in spring. This disease has been traced to the presence, between the scales of which the bud consists, of large numbers of a minute insect, which lives by sucking out the fluid matter of the tissues, thus causing the bud-scales to shrivel, and in this way preventing the development of the embryo bunch of flowers which they enclose. We condense the following notice of this microscopic pest from Professor Westwood's communication to the *Gardeners' Chronicle*, (1868, 641):—

The Currant-bud insect is of a very unusual form, being long, convex, and tapering to the extremity of the body, whilst the anterior portion is of a more conical form when the head is protruded in walking. The head is distinct and oval. Neither eyes nor antennæ have been observed; and locomotion is effected by means of two pairs only of articulated legs, the penultimate joint of which is furnished with a long bristle on its outer edge. The body is white and fleshy, and is covered with minute points, closely arranged in very numerous transverse rows, forming striæ of granular lines; and it is terminated on either side by a long bristle. In the annexed woodcut, fig. *a* represents a bud highly magnified, with the outer scales partially opened, showing a few of the parasites, which, on an average, are individually not more than 1-200th of an inch in length, and 1-500th of an inch in width; fig. *b* represents



one of the insects very highly magnified, as seen when crawling along; and fig. c represents a very young animal when lying on its side in a state of inactivity.

The bristles terminating the body, together with the structure of the legs, rather than the structure of the body itself or the head, indicate the tribe to which the insects belong, namely, the Acaridæ, or mites, where they range apparently in the neighbourhood of the genus *Tetranychus*, which includes the web-spinning species of the Lime, and also the "rod spider" of the greenhouse.



two pairs of 7-jointed legs. These minute animals Duges considered to be larvæ, from the paucity of legs, and he noticed their close resemblance to the *Tetranchi* found occasionally in similar galls.

The chief remedy in the case of badly infested trees is to prune them very closely in autumn, but this may advantageously be supplemented by picking off the old dried buds in August or September, as it is evident that otherwise the newly formed buds must become infested almost as soon as they are well developed in the early part of the autumn. A dressing of the shoots at that period with a thick coating of lime and soapsuds, to prevent the females from crawling to the young buds, has been also suggested. M.

## THE YUCCA.

AS a decorative plant for the lawn, the shrubbery, or the recesses of bold rockwork, the *Yucca* stands unrivalled. No other plant possesses so distinctive a character, while the exotic appearance of the *Yuccas* especially recommends them in these days, when diversity of foliage is so much sought after. They are, indeed, hardly ever out of place, and suit any position or situation, whether used as single plants, or as groups, on the lawn, or in the shrubbery borders, in beds, or planted either at the base, the sides, or the summit

of rockwork,—in each and all they flourish, look well, appear suitable, and are sure to attract attention. They do not appear to be by any means particular as to soil, as they are growing well at this place in some instances in almost pure sand, and in others in a strong clay loam; but where a compost is purposely made for them, a mixture of the two, with leaf-mould added, would be most suitable. I am not prepared to assert that it may not be best to provide for them a suitable compost in many places, although here we never take the trouble to do so, as they appear to accommodate themselves to any soil or situation.


The Yuccas are very easily propagated by offshoots from the sides of the stems, and may be increased to almost an indefinite extent by cutting the long stems transversely through into pieces of from two to three inches long, and planting these pieces like potato sets. This, however, is a slow process, and the propagation by offshoots is greatly to be preferred, as these generally make good plants the second year. During high winds we sometimes have large side shoots blown off with stems from 18 in. to 2 ft. long, and very large heads; these I plant in a suitable place just as they are, digging a hole deep enough to take the stem and about three inches of the lower leaves, taking care in filling up to ram the earth firmly all round the stems, which is thus rendered almost immovable, so that the winds do not sway them about, which would prevent their rooting. The buried leaves will decay, but in most instances the centre will start into growth after a time, and in a very few years such shoots will form noble plants.

I am here alluding to such sorts as *Yucca recurvifolia* and *Yucca gloriosa*, which are grand and noble-looking objects when they are at their full growth. *Y. gloriosa* will attain a height of eight feet, *Y. recurvifolia* about six feet, the latter being the most graceful in habit. Some of the sorts, such as *Y. glaucescens*, and *Y. flaccida*, rarely form much of a stem, but throw out innumerable offshoots from under the surface soil, and these generally flower much more abundantly than the more robust growers. These dwarf sorts may be readily increased by cutting off the suckers with a sharp spade; they make good plants at once, and often flower the next season. During the present year all the sorts appear to have flowered very abundantly, and when seen from a distance, a tall plant with a fine spike of flowers—altogether something like 12 ft. in height—is a very striking and effective object.

*Redleaf.*

JOHN COX.

### NEW FLORISTS' FLOWERS.

HE approach of autumn is materially helping to thin the monthly record of new flowers. At the meeting of the Floral Committee on October 5, a First-Class Certificate was awarded to Mr. C. Turner, Slough, for *Ivy-leaved Pelargonium Compactum*, a variegated form, with something of the character of Duke of Edinburgh, but with a broader edging of white to the leaves, and a more compact habit of growth. A similar award was made to the same

exhibitor, for *Tropæolum ochroleucum*, a golden-leaved dwarf Nasturtium, having the foliage of a soft yellow hue, and a good acquisition as a bedder. Mr. Turner has had a line of it bedded out at Slough during the summer, and it has proved most effective, promising even to surpass in usefulness the popular Golden Feather Pyrethrum. The *Tropæolum* has not only a brighter appearance, but scarcely produces any flowers, so that there is no head of bloom to interfere with its leaf-colouring, as in the case of the Pyrethrum. A new white *Bedding Dahlia*, *Princess Mathilde*, was produced by Messrs. Downie Laird and Laing, Stanstead Park Nursery, Forest Hill; it appears to be an improvement on the old *Alba floribunda nana* in point of habit, being a little dwarfer, and more branching.

At the meeting of the same Committee, held on October 19, but one example of a new Florists' flower worthy of notice put in appearance, and this somewhat late, namely, *Zonal Pelargonium Purity*, from Mr. Eckford, of Coleshill Gardens; it is in the way of Madame Werle, but as shown at this season certainly superior to it in the purity of the white, and in the depth and regularity of the carmine centre, as well as in the form and texture of the flowers.

There has been such a rapid and marked improvement in the *Pentstemon* during the past three or four years, that I must claim space to allude to a few of the new seedling flowers of the present year, as it is very difficult to produce the plants at the meetings of the Floral Committee. Messrs. Downie Laird and Laing are quite in the van as regards the improvement of the *Pentstemon*, and at their Nurseries, both at Edinburgh and Forest Hill, they have this season flowered a fine batch of seedlings. The following eight new kinds, which can be confidently recommended, have been selected from the batch at the Stanstead Park Nursery. viz.:—*Bridesmaid*, flushed with delicate pale rose on a white ground, the interior of the tube primrose, novel, and very pretty; *Grandis*, carmine red, white throat, pencilled with dark; *Stanstead Surprise*, purplish blue, with pure white throat, distinct and fine; *Agnes Laing*, violet rose, pure white throat, very pretty and distinct; *Black Prince*, very dark claret, white throat, pencilled with the same; *Painted Lady*, clear rose, with white throat, marked with crimson; *Mrs. Cator*, bright pale rose, white throat, pencilled with lines of deep rosy crimson; and *Henry King*, very bright scarlet, with white throat, slightly pencilled with dark markings.

R. D.

### ACANTHUS LATIFOLIUS.

**T**HIS plant, observe MM. Vilmorin Andrieux et Cie., in their *Fleurs de Pleine Terre*, is without doubt only a variety of *Acanthus mollis*, and is distinguished by the larger development of all its parts. Its leaves are numerous, ample, rising to a height of about 2 ft., and forming when mature tufts of foliage of more than a yard in diameter. Its robust stems attain from 5 ft. to 6 ft. in height, simple or slightly branched, and terminated by a long spike of flowers, these being somewhat more highly coloured than in the

ordinary form of *A. molle*. One of the peculiarities of this plant is to continue growing all the year, flowering from June to August. Lifted and potted in the autumn, its leaves remain green throughout the winter. It is somewhat tender in the climate of Paris, but is one of the most beautiful plants for the decoration of lawns and flower gardens.

Both the name of *A. latifolius*, and that of *A. lusitanicus*, under which it is also known, appear to be of garden origin.

We have to thank Mr. Robinson, whose handsome volume on French gardening we have had several opportunities of commending, for the use of the annexed cut, which shows the fine picturesque aspect of this *Acanthus latifolius*. It is one of those things that will not disgrace any position, and will prove equally at home in the mixed border, in the sheltering angle of a wall, or projecting in front of a shrubbery. Its quality of retaining its leaves till the end of the season is a strong point in its favour; and it is just one of those plants, which if a suitable spot for them can be found, are best planted and



suffered to grow on undisturbed. Hence, as it is, moreover, liable to suffer from extreme cold without it is provided with some protection, such a position as the front of a greenhouse or conservatory, close to the sheltering wall, would be just adapted for it. We need add nothing in praise of its beauty, which is well indicated in the woodcut.

M.

### MONTHLY CHRONICLE.

FROM the rich collection of Tropical Fruits grown by P. L. Hinds, Esq., Byfleet Lodge, there was exhibited at the meeting of the Royal Horticultural Society, on the 19th ult., a fruit of the Avocado, or Alligator Pear, the first, it would appear, that has been produced in England, perhaps in Europe, though the tree has previously flowered both at Syon and at Kew. This fruit is the produce of *Persea gratissima*, one of the Lauraceæ, and is much esteemed in the West Indies. The example exhibited was oblong pear-shaped, much like a dark vegetable-marrow, deep green spotted with red outside, hollow, enclosing one large seed, the flesh yellow about an

inch in thickness, of a fine buttery texture, but without any remarkable flavour, though not unpleasant. Mr. Carr deserves great credit for producing so fine an example of a fruit which has hitherto baffled our cultivators, though the tree is sufficiently free in growth.

— **AMONGST** the new Continental Phloxes are some very desirable acquisitions, inasmuch as they are of fine form, and the colour in some cases approaches to scarlet. Of this brilliant group the following are especially fine :—*M. Paulmier*, rich salmon-rose ; *Gloire de Neuilly*, deep rosy scarlet with crimson centre, very fine ; *Roi des Roses*, rose suffused with salmon, afterwards becoming more rosy ; *Aurantiaca superba*, rich orange-red, with fine crimson centre, a fine flower ; *L'Avenir*, fine bright crimson, of good form ; *M. de Launay*, brilliant rosy red ; *Professor Koch*, brilliant rose suffused with salmon ; and *Dr. Parnot*, pale orange-rose. Amongst the whites occur :—*Czarina*, dwarf and good ; *Boule de Neige*, taller ; *Madame la Comtesse de Turenne*, very clear, with pale violet eye ; *Madame Domage*, splendid white, with large violet-crimson eye ; and *Comtesse de Malart*, suffused white with large rich crimson centre, first-rate—all first-class kinds. *M. Malet*, a delicate lilac, is quite distinct, blooms freely, and is very dwarf, not growing much more than 12 in. in height. Of rosy tints, *Madame Lemort*, bright rose with large crimson centre ; *Madame Godefroy*, rosy purple, very fine ; *Souvenir de M. Pirole*, brilliant reddish crimson, very distinct ; *Soulouque*, purplish lilac ; and *Comte de Lambertye*, rich glowing crimson, are all very fine flowers, bloom freely, and are quite distinct.

— **AN** excellent mode of applying Sewage Manure has been for some time in operation in the nursery of Mr. Masters, of Canterbury. Remembering how the Chinese utilized their faecal matters, this veteran horticulturist caused a large tank to be constructed, into which is conveyed through pipes, the manure from the adjacent barrack-yards. This is rendered available for use by filtering the watery particles through a filtering screen, and returning the semi-fluid to the mass in the tank. Preparations of zinc and charcoal were at one time applied as deodorants, but latterly weeds and refuse burnt with the clayey soil in large heaps, have been employed, the dry earth and vegetable ash acting as deodorants, while assisting to form the manure. The tanks are emptied into an area of 2 ft. depth ; the surface is covered with this burnt earth, which destroys bad odours, and the whole is in time incorporated into a compost, which proves invaluable for garden purposes. The plan may not be applicable in the case of large towns, and even for smaller ones the first cost of getting a series of such tanks into working order would be considerable, but it would pay.

— **THREE** New Grapes sent from the Crimea by the Duc de Malakoff, to his friend M. Rudler, are being sent out by M. Müller, of Strasbourg. One named *Ribier du Maroc*, has large roundish black berries, not unlike a *Hamburgh*, and is said to be good. Another, called *Malakoff usum*, which has large clusters and remarkably long and large rose-coloured berries, must, at least, be a very handsome Grape, with something the colour of the *Albee*, but of a deeper tint. The third, called the *Tschaousch sofa usum*, is a large oblong yellowish white sort, described as being of very good quality, and from its appearance may possibly be the *Chaouch* or *Chavoush* already known amongst us.

— **M. ARMAND** has lately announced to the French Academy of Sciences the discovery of an Antidote to the noxious principle of Tobacco. A liquor obtained by an infusion of water-cresses, when used for steeping the tobacco leaves, destroys the baleful effects of the nicotine, without altering the aroma of the tobacco, while a draught of the liquor is a sure antidote to nicotine poisoning. M. Armand recommends that the paper used for cigarettes should be soaked in this liquor, to render them innocuous.

— **IT** is something new to treat the *Ixora* as an annual. Nevertheless, Mr. Fraser gets seedlings to bloom freely at about one year old, the plants yielding many new tints of colour, no two coming exactly alike. This method of growing dwarf bushy free-flowering examples of the *Ixora* is worthy of adoption in establishments where plants of this kind are in demand for decorative or for market purposes.

— **THE** *Bouquet* which won the first prize at the Royal Horticultural Show at Manchester, was so remarkable for its simple beauty as to call forth

general commendations. Much of its effectiveness was due to the sparing introduction of single blossoms of a white-flowered *Panacratium*, set a little prominent in reference to the other flowers, in which position the narrow recurving perianth segments had a most graceful and charming effect, while the cup was not sufficiently projected to appear obtrusive. This setting-off, we have no doubt, was mainly instrumental in winning the prize.

— **THE Pine Beetle**, *Hylurgus piniperda*, has been specially mischievous during the past summer. In the months of April and May, the beetles, which have passed the winter in the perfect state, make their galleries of oviposition in the bark of the Pine trees. In six weeks the young brood feed up, and the perfect beetles emerge. In England there is but one brood in the year, and these beetles, emerging in June and July, pass the following winter in the crevices of the bark of trees and other suitable localities; but until the hibernating period arrives they employ themselves in eating out for food the interior of the young shoots of living trees, thus doing irreparable damage. The period to attack the insect, in order to destroy it, is in the spring, whilst ovipositing, and whilst the young brood is feeding up. The bark preferred by the beetle for oviposition is that of trunks felled during the preceding winter. They also attack growing trees, if at all unhealthy. The only practicable remedy is, about the end of May, to remove and burn the bark of all dying trees, in which the beetles are ovipositing, and of all logs of felled timber.

— **DWARF Coloured-leaved Plants** may be made to form summer beds of great beauty when these are well carpeted with their many-hued foliage. In one most strikingly beautiful bed at Battersea, 30 ft. long by 6 ft. wide, were three rectangular masses of the golden-leaved *Pyrethrum*, bordered and connected by a broadish band of the rosy-tinted *Alternanthera amœna*, the outer mass being made up of the orange-tinted *Alternanthera paronychioides major*. The effect was excellent, and equally pleasing whether seen from a distance, or examined closely. Another contiguous bed was filled with the same kinds of plants, but differently arranged. Here there were two diamond-shaped masses of *Alternanthera paronychioides major*, bordered and connected by a broad band of *Alternanthera amœna*, which in addition was made to form a cross band at the centre and a trefoil figure at each end, the whole outer mass being the golden-leaved *Pyrethrum*, edged with a line of *Echeveria secunda*. In another part of the grounds occurred a pair of elongated carpeted beds, consisting of a series of circles of the silvery *Antennaria tomentosa*, with the *Alternanthera amœna* and *Teleianthera versicolor* disposed in scroll-like bands around them, while the outer part was filled with *Alternanthera paronychioides*, with a most effective border formed of a single line of *Echeveria secunda*, which latter, with *Sempervivum californicum*, and one or two other succulents of similar character, comes in well in such positions.

— **THE flowers of the pure white Double Chinese Primrose** form charming button-hole bouquets. Each flower should be removed from the truss with as long a stalk as possible; a piece of the finest copper wire, 4 in. long, should be passed horizontally through the tubes of the calyx and corolla, the two ends being bent downwards and twisted gently round the stalk of the flowers. Three of these blooms, grouped with four Neapolitan Violets, make up a pretty bouquet, one Violet being in the middle, and the other three at the margin. In place of Violets, double blue or the double pink Hepaticas may be used with good effect. With three of the Double Primulas, a single bloom of one of the double-flowered Scarlet Pelargoniums looks well. For background to these combinations, a small but well-developed leaf of either the Primula or the Oak-leaf Pelargonium associates pleasingly, the latter having the advantage of an agreeable perfume.

— **It** is well known that Paint does not adhere well to Zinc, though many means have been tried to obtain their close adherence. "The last we have met with," says the *Builder*, "is due to Dr. Bottger, who professes to have perfectly succeeded. He makes a solution of one part of chloride of copper, one part of nitrate of copper, and one part of chloride of ammonium, in 64 parts of water and one part of commercial hydrochloric acid. This solution acts as a sort of mordant. It is smeared with a wide brush over the zinc, which immediately becomes of a deep black colour, changing in the course of 12 or 24 hours to grey, and upon this grey surface any oil paint will dry, and give a firmly-adhering coat. Summer heat and winter rain, it is said, have no effect in disturbing this covering.







## TO PROPAGATE DOUBLE STOCKS.

**Y**OUR Monthly Chronicle for October includes a short note on a mode by which to perpetuate Double Stocks. The method referred to is a very old one, although perhaps not generally known. It was practised by my father nearly forty years since, and was published in one of the garden periodicals of that day. I have extracted the following memorandum from his MSS. :—

“ I have practised two methods of taking cuttings from Double Stocks, and with equal success in striking them ; but I much prefer the one to the other, as I find the two methods produce very different plants. The one I consider the best, is to take the cuttings when the plants are in full bloom. On the side shoots producing the flowers, beneath the existing blossom, another, and frequently two other shoots, are produced. Take off those shoots at the lower joint before they show flower, and with a sharp knife cut off the two lower leaves ; insert the cuttings in pots filled with any light rich compost, and treat them as other soft-wooded cuttings. When well rooted, pot them off in pots of sizes proportionate with the progress they have made, and they will make plants equal in symmetrical beauty to any raised from seed, and will flower more abundantly.”

This method of propagating Stocks from cuttings, may, at first sight, appear tedious, but it will not be found so in practice. Besides, there are some advantages to be derived from it, which are not so strictly within our reach when propagating from seed, viz., the certainty of commanding groups of this lovely flower, all double ; and the equal certainty of perpetuating any favourite or peculiar variety. This is surely a boon to us in these days of ribbon borders and self-coloured beds, and should be practised, especially with the East Lothian varieties, in order to keep the colours distinct, and to ensure double flowers.

*Osberton.*

EDWARD BENNETT.

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## CLEMATIS THOMAS MOORE.

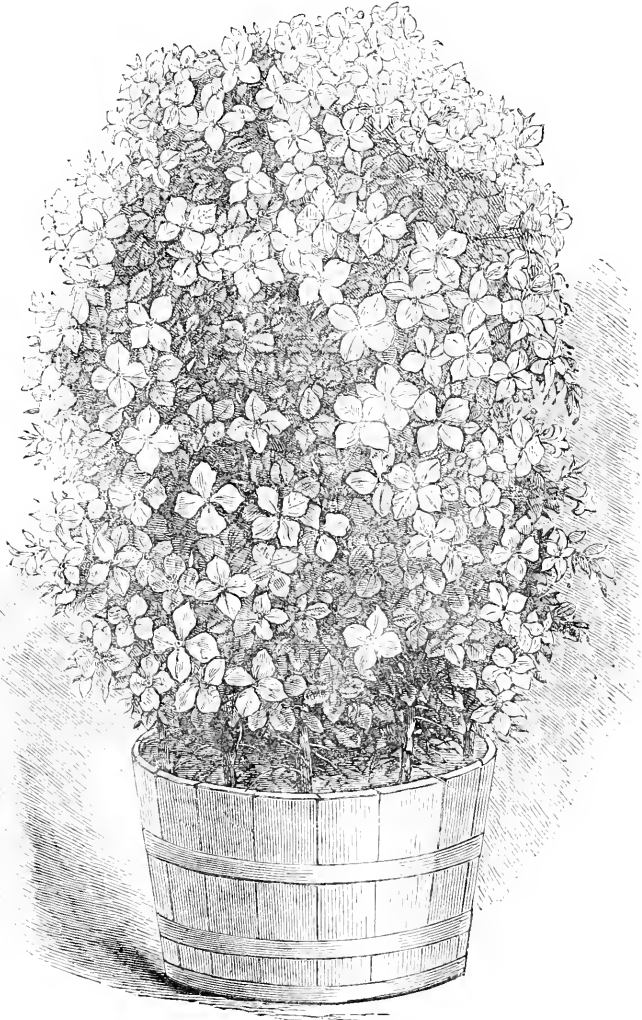
WITH AN ILLUSTRATION.

**I**F the many beautiful forms of the Hardy Hybrid Clematis for which the lovers of gardens have to thank Mr. George Jackman and the Woking Nursery, that which we now figure is certainly one of the finest. It is, in the first place, the largest at present known, since the flowers measure, when expanded, as much as from 8 to 9 inches across. It is, in the next place, one of the most striking and effective in its colours, which effect results from the large spreading tuft of filaments in the centre being white, so that they contrast strongly with the rich violet hue of the sepals, and give the flowers quite the semblance of belonging to some giant passion-flower. It has the free-growing and free-blooming habit of the other Woking hybrids, and must be set down as one of the best and most distinct of the series.



CLEMATIS JACKMANNI AND OTHERS, AS THEY APPEAR WHEN GROWING OVER TREE-STUMPS, ETC.

Too much cannot be urged in favour of the fine hybrid race of Clematises to which our subject belongs. They are superlatively beautiful in whatever form they are introduced to the garden, whether as climbers for walls or pillars, as



bedding plants, as flowering shrubs for rockeries or rooteries, as festoon plants, or as exhibition specimens. We now introduce two illustrations which show their great importance as specimen plants for the terrace or the exhibition-table, and as a flowery furnishing for rooteries or wilderness scenery ; while very recently

Mr. Westland has pointed out (p. 254) how admirably they may be introduced as bedding plants, supplying as they do, a colour which is much needed.

Our obligations are due to Mr. Jackman, not only for the opportunity of figuring the magnificent variety represented in our plate, but also for the wood-cut sketches which so admirably show the floriferous habit of the plants.

M.

### AZALEA INDICA VITTATA.

DO not think it is generally known that this plant will flower at the end of October without forcing. It has, however, done so with me for the last six years, and I have now a fine plant of it in full bloom in the conservatory. At this season of the year, it will last for at least two months in perfection. The flowers are white, elegantly marked, with purple stripes. It is a strong grower, and a free bloomer. The plant commenced blooming out-doors.

*The Gardens, Elmham Hall.*

WM. SMYTHE.

### THE NEW ROSES OF 1869-70.

IN offering the subjoined list of New French Roses, I would beg of my readers to bear in mind that the descriptions are a literal translation from the raisers' lists. Although last summer, as usual, I travelled over all the ground from which these varieties are collected, I saw but few of them in flower. The desirability of bringing novelties rapidly into the market lest they should be superseded, necessitates quick multiplication, and hence the plants are so cut about that they have but small chance of flowering. A distinguished French horticulturist who travels much, and watches the development of the Rose in France, reports to me that he finds the same state of things, adding that, looking upon him as a fancied rival, and a good judge of a rose, the raisers will scarcely let him see their novelties when they are in bloom. The reason of this is obvious, and to which I have often before alluded—if a novelty is good, it will usually sell to any extent without being shown to the many; if indifferent in quality, the less it is shown the better it will sell.

A noticeable feature in the novelties of the present year is that we have two batches of seedlings from that grand old rose Gloire de Dijon, some of which will doubtless take a distinguished position in the future. There are also some white roses, and whites with rosy centres, of which we have still much need; some scarlet and black according to the descriptions, and some new shades of colour. It is to me gratifying to find that many of the raisers are getting away from the "one idea" of looking at the form of the flower only, and are paying a due share of attention to the foliage, habit, and general constitution of the plant. "It rains new roses," wrote a French cultivator recently, and let us hope that as usual there may be some pearly drops that can be referred to in the future as having nourished the taste for this favourite flower.

## HYBRID PERPETUAL ROSES.

*Abbé Giraudier*: roddish cerise, large, full, and of fine form; very vigorous, flowering abundantly. A seedling from *Louise Peyronny*.

*Adeline Patti*: bright rosy carmine, large, full, and of fine form; flowers freely, habit good, growth vigorous.

*Albion*: cerise-scarlet, large, full, and of beautiful globular form; foliage fine; growth vigorous.

*Alexandre de Humboldt*: clear bright rose, the edges of the petals white in summer, large, full, and of fine globular form; growth very vigorous.

*Amélie de la Chapelle*: delicate flesh-coloured rose, large, full, of fine form and habit; foliage fine, colour new; flowers freely, very sweet, distinct; growth very vigorous.

*Auguste Neumann*: fiery red, shaded with violet, often mottled with white, large, full, and of fine form; habit vigorous and good.

*Baron Chaurand*: velvety scarlet centre, shaded with blackish purple, large, full, and of finely-cupped form; foliage fine; growth very vigorous.

*Blanche de Meru*: white with faint rosy centre when first opening, changing to pure white, of medium size, full, and of fine form; flowers freely; growth moderate.

*Candide*: rosy white, changing to pure white, of medium size, fine form, and full; growth moderate.

*Charles Turner*: bright glossy red, very large, full, of finely-cupped form; habit good, growth vigorous.

*Charlotte Gagneau*: brilliant rosy cerise, colour new, large, almost full; growth vigorous.

*Clémence Rouoc*: blush edged and spotted with rose, petals stout and enduring, blooms late in autumn, very large and full; growth vigorous.

*Comtesse d'Osford*: bright carmine-red, shaded, very large, full, and of fine form; growth vigorous; foliage handsome.

*Edouard Morren*: in the way of *Jules Margottin*, but of a fresher and more delicate colour, of better form, more double, and much larger; growth vigorous.

*Elisa Boëlle*: white, slightly tinted with rose, changing to pure white, of medium size, fine form, and full; growth vigorous.

*Enfant de Chatillon*: purplish red, shaded with scarlet, of fine form, full, very sweet, flowers freely; growth vigorous.

*Eugène Yavin*: bright glossy cerise, very large, of fine globular form; growth vigorous.

*Exposition du Harre*: dark bright carmine-rose, large, full, and of fine globular form; growth vigorous; foliage fine. A seedling from *Jules Margottin*.

*Ferdinand de Lesseps*: purple, shaded with violet, large, full, and of fine form; growth vigorous.

*Général de Lamartinière*: dark rose, the centre vermilion-rose, very large, full; fine foliage and habit; fine form; growth very vigorous.

*General Grant*: scarlet, strongly shaded with bright carmine, large, and full; growth vigorous.

*General Miloradowitsch*: fine clear red, slightly shaded with violet, very large, full, and of fine form; foliage fine; growth very vigorous.

*Jacob Pereire*: brilliant fiery red, shaded with purple, large, and full; growth very vigorous.

*Jeanne Guillot*: bright satin-like rose shaded with purple, very large and full; form cupped; foliage fine.

*Jules Chrétien*: bright glossy rose, large, full; form fine; foliage good; growth very vigorous.

*Jules Seurre*: vermilion-red shaded with bluish purple, centre fiery red, large, full; foliage fine; very vigorous. A seedling from *Victor Verdier*.

*La Motte Sanguine*: bright reddish carmine, in the way of *Baronne Prevost*, very large, full; growth very vigorous; foliage and habit good.

*Lena Turner*: bright cerise, sometimes shaded with slaty violet, large, full; form imbricated; growth vigorous.

*Louis Von Houtte*: reddish scarlet and amaranth, the circumference blackish crimson shaded with bluish purple, very large, full, and of fine globular form; growth vigorous.

*Louisa Wood*: bright rose, petals large, flowers very large, full, and constant; growth vigorous.

*Madame Ambroise Triollet*: fine salmon rose, large, full, flowering abundantly; growth very vigorous. A seedling from *Jules Margottin*.

*Madame Angèle Dispote*: fine purplish red, the reverse of the petals scarlet, with a bluish shade at the circumference, very large and full; growth very vigorous.

*Madame Clorinde Leblond*: bright reddish scarlet, velvety, of medium size; growth vigorous.

*Madame la Forcade la Roquette*: gooseberry-red, a new shade of colour, large, full, and of fine form; growth vigorous. A seedling from *Catherine Guillot*.

*Madame Dustour*: vermilion-rose, tinted with white, very large, full; form cupped, very effective; growth vigorous.

*Madame Elisa Jœnisch*: blood-red, shaded with scarlet and black, the reverse of the petals violet-red, petals large; flowers large and full; growth vigorous.

*Madame Fey-Franard*: pale rose, tinted with white in summer, large; growth vigorous.

*Madame la Générale Decaen*: flesh-coloured rose, centre deep bright rose; large, full, and of fine globular form; growth vigorous; foliage large and handsome. A seedling from *Jules Margottin*.

*Madame Laurent*: bright reddish cerise, large and full, beautiful in bud; growth vigorous.

*Madame Lefrançois*: bright flesh-coloured rose, large, full, and globular; growth vigorous. In the way of *Comtesse de Chabrillant*.

*Madame Liabaud*: rosy white, changing to pure white, large, full, of fine form; petals large; growth moderate. In the way of *Virginale*, but larger, and more vigorous.

*Mlle. Berthe Bazterais*: clear rich bright rose, very large, full, and of fine form; foliage good; growth vigorous.

*Mlle. Eugénie Verdier*: bright flesh-coloured rose, the reverse of the petals silvery white, very large and full, of fine form and habit; growth vigorous. A seedling from *Victor Verdier*.

*Mlle. Juliette Halphen*: bright flesh-coloured rose, large, full, of fine form and habit; growth vigorous.

*Marquise de Castellane*: beautiful bright rose, very large and full; form perfect; growth vigorous; flowers freely. A seedling from *Madame Domage*.

*Marquise des Ligneris*: transparent rose, shaded with vermilion, changing to bright rose, very large, full, of fine form and habit; foliage and growth of *La Reine*, beautiful in bud, and flowers freely.

*Maurice Perrault*: brilliant reddish cerise, dashed with scarlet, large, full; flowers freely; habit good; growth vigorous.

*Newton*: bright gooseberry-red, of medium size, and fine globular form; growth very vigorous.

*Paul Néron*: dark rose, very large, of fine form and habit; growth very vigorous. A seedling from *Victor Verdier*.

*Perle blanche*: white, blush centre, very large, full, and of fine form; growth very vigorous. Of the shape and size of *La Reine*.

*Prince Leopold*: beautiful deep red, large, full, the outline smooth and circular; foliage large and handsome; growth very vigorous. A good pillar or wall-rose.

*Reine des Beautés*: flesh-coloured white, of medium size, fine form, and full; growth vigorous; very sweet.

*Reine des Blanches*: white, with faint rosy centre, large, full, and of fine form; growth moderate. A seedling from *Victor Verdier*.

*Séateur Chevreau*: beautiful bright red, bordered and chased with white, very large, full; growth vigorous.

*Souvenir du Prince Royal de Belgique*: light red, the reverse of the petals dark velvety red, large, and full; very vigorous. A seedling from *Triomphe de l'Exposition*.

*Susanna Wood*: fresh rose, large, full, and of fine form; growth vigorous; flowers freely.

*Thomas Methven*: brilliant carmine, large, full, and of fine form; growth vigorous.

*Ville de Laon*: metallic rose shaded with silvery white, very large, full, and of fine form; habit good; growth vigorous.

## TEA-SCENTED ROSES.

*Annette Séant*: deep orange-yellow, changing to white, large, and of fine form and habit; growth vigorous.

*Belle Lyonnaise*: deep canary yellow, changing to white, slightly tinged with salmon, large, full, of fine form and habit; growth vigorous. A seedling from *Gloire de Dijon*.

*Catherine Mermet*: delicate flash rose, large, full, fine form and habit; growth vigorous.

*Chamois*: chamois yellow, of medium size, fine form, full; growth vigorous.

*Jeanne d'Arc*: pale yellow, of medium size, full; growth vigorous.

*Le Mont Blanc*: white, slightly tinted with yellow, of fine form, very large, full; growth very vigorous.

*Madame Ducher*: clear yellow, large, full, and of fine form; flowers abundantly; growth vigorous. A seedling from *Gloire de Dijon*.

*Madame Hippolyte Janain*: outer petals pure white, large, centre petals smaller and of a coppery yellow tipped with delicate rose, large, full, and of fine form; growth vigorous.

*Madame Levet*: yellow, outer petals tinged with violet, large, full, and of fine form; growth vigorous; habit good. A seedling from *Gloire de Dijon*.

*Madame Trifle*: salmon yellow, outer petals sometimes deep coppery yellow, large, full, of fine form and habit; growth vigorous. A seedling from *Gloire de Dijon*.

*Sulphureux*: sulphur-yellow, of medium size, fine form, full; growth vigorous.

*Tour Bertrand*: clear yellow, large, full, and of finely-cupped form; growth very vigorous. A seedling from *Gloire de Dijon*.

*Unique*: white, edged with bright purplish rose, of medium size, full, of fine form and habit; colour and style new, the flower resembling a tulip.

## NOISETTE ROSES.

*Lamarque Jaune*: golden yellow, of medium size, full; growth moderate.

*Rêve d'Or*: deep yellow, sometimes coppery yellow, large, full; very vigorous.

## CHINESE OR BENGAL ROSE.

*Ducher*: pure white, of medium size, fine form and full; flowers very freely; growth very vigorous. Promising as a free and continuous white bedding rose.

## BOURBON ROSES.

*Madame Just Detrey*: vermilion-red, brilliant and velvety, the reverse of the petals paler, large, full, of good form and habit; growth very vigorous.

*Mlle. Fucart*: fresh glossy rose, lightly bordered with white, large, full, of fine form; flowering abundantly and perpetually; growth vigorous.

*Souvenir du Baron de Rothschild*: fine reddish crimson, large, almost full; growth vigorous; flowers freely.

## DAMASK PERPETUAL ROSE.

*Marie de St. Jean*: beautiful pure white, of medium size, full, flowers freely; foliage fine; growth vigorous.

## MICROPHYLLA ROSE.

*Imbricata*: pale rose, of medium size, very double; form cupped; growth very vigorous.

## HYBRID MOSS ROSE.

*Albert Dureau*: dark red shaded with light red, large, good habit and foliage; flowers freely; growth vigorous.

## PERPETUAL MOSS ROSE.

*Madame William Paul*: very bright rose, large, full, of finely cupped form; flowers freely; growth vigorous. This is said to be the best Perpetual Moss rose yet introduced.

*Paul's Nurseries, Waltham Cross, N.*

WILLIAM PAUL.

## RONDELETIA SPECIOSA MAJOR.

THIS is a very handsome evergreen stove winter-flowering shrub, and of easy culture. It flowers from August till December, and if trained as a pyramid, it makes a very handsome and showy plant for winter, and lasts a long time in bloom. It is, moreover, extremely valuable for furnishing cut flowers, so that, altogether, I find it a most useful plant.

It will grow freely in equal parts of fibry peat and turfy loam, with a good portion of silver sand, well mixed; the pots must be well drained. Cuttings may be struck in sandy peat, under bell-glasses, in bottom-heat.

*The Gardens, Elmham Hall.*

WM. SMYTHE.

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### STYRIAN PEAR.

**A**LONG with specimens of this highly-coloured autumn Pear, Mr. Hill, of Keele Hall, has sent us the subjoined memorandum, recommending its more extensive cultivation in districts where the tenderer varieties will not thrive. The shape of the fruit is peculiar, and its quality, though scarcely first-rate, is by no means to be despised. It has sometimes been called the Keele Hall Beurré. The pyriform fruit tapers off to the thick fleshy stalk, is of a beautiful citron-yellow, with a bright red cheek on the exposed side, and is in use in the early part of October. The flesh is very buttery, fine-grained, and juicy, and has an agreeable vanilla flavour. It is somewhat remarkable that this useful and handsome pear is not oftener met with in cultivation. Mr. Hill's note is as follows:—"I send you specimens of this, with us, excellent Pear. The fruit is not so large this season, or so highly coloured as we generally have it. When grafted on Citron des Carnes, it comes in fully a month earlier, and is beautifully coloured, but much smaller than on the Pear stock. It is also very good from standards in this part of the country (North Staffordshire), where most kinds of Pears are too tender for the climate."

*Keele Hall Gardens.*

W. HILL.

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### SEASONABLE HINTS FOR AMATEURS.—DECEMBER.

**A**LL out-door operations for this month will depend on the state of the weather. As long as it continues mild, planting, draining, turfing, the formation of new beds or borders, and all similar work, should be pushed on as much as possible.

Now the leaves are all off the deciduous trees and shrubs, there should be a general clearing-up of the whole place. Lawns and walks should be swept clean, and then well rolled while dry. All the borders should be neatly dug over, the leaves on them being dug in, and not raked off, as is sometimes done. All the leaves that are swept off the lawns, walks, and other open spaces should be carefully collected into a heap; they will be found useful for covering Seakale, Rhubarb, &c., and for making hotbeds in spring, and when rotten they are invaluable for many purposes. All bulbous roots should now be protected with a covering of litter, leaves, tan, or ashes. Trees and shrubs may be planted in mild weather; if the situation be an exposed one, they should be well secured to stakes, to prevent their being blown about. Many kinds of Thorn are very ornamental, and should be more extensively planted than they are. No place, how-



ever limited, should be without Paul's double crimson Thorn. Roses may be planted in mild weather, and the standards should be well secured to stakes. Flowers in the open border will now be scarce, but there is one plant, the *Helleborus niger*, which makes its appearance about this time, and which is on that account called the Christmas Rose; this, which should be in every garden, delights in a deep, cool, strong soil, but to have the flowers in perfection, a hand-glass should be placed over them to protect from frost and rains; it is a plant easily increased by division of the roots.

All tender plants, in pits, frames, and houses, should, during this and the following months, be kept at rest as much as possible. A safe rule to observe is to give air at every favourable opportunity; to protect well in frosty weather; and to water only when absolutely necessary. *Cinerarias* and *Primulas* coming into flower should be kept at the warmest end of the Greenhouse. *Chrysanthemums* will now be in full flower, and the collection should be looked over, with a view to exclude all the inferior varieties, since there are now so many beautiful kinds. This is a good time for amateurs, who are fond of these flowers, to visit the nurseries where they are extensively grown, and to select, whilst in flower, the kinds they may like best.

In the Kitchen Garden, the various operations of cleaning, draining, digging, and trenching should be proceeded with, when the weather is favourable. In frosty weather manure should be wheeled on to vacant ground, and to all other parts where it may be wanted. Celery should be protected with a good covering of dry litter, during the continuance of severe frost. Parsley should also be protected with a frame and light, or with some temporary contrivance. Cauliflowers in head should be taken up and laid in by the heels; also Lettuces and Endive. When there is an appearance of severe frost setting in, some Turnips, Parsnips, Jerusalem Artichokes, and Horseradish should be taken up and placed under cover, for use during its continuance. Broccoli plants should be laid down with the heads facing the north; they will then be more secure against frost and snows, than if left standing upright. Potatoes and Onions in store should be occasionally looked over, and any which show symptoms of decay should be removed.

The planting of fruit trees, if not done last month, may be proceeded with during mild weather. The list of fruit trees given at page 12 will be a guide for amateurs what varieties to select. I would caution them against planting weakly-growing kinds, and all shy and uncertain bearers. It is a great disappointment to any persons, but particularly to amateurs, whose gardens are often small, to plant a fruit tree, and after waiting some years, to find the variety either a weakly-growing tree or a bad bearer. Fresh plantations of Raspberries may still be made. Cuttings of Gooseberries and Currants may now be made, and planted in rows a foot apart. The pruning, training, and nailing of all kinds of fruit trees should be proceeded with in open weather, as it is very desirable to get as much of this work completed as possible before spring, when so many pressing operations,

which cannot be postponed, demand attention. Vines under glass should not be exposed to severe frost, as it would seriously injure them.

*Stourton.*

M. SAUL.

### BELLADONNA LILIES.

**N**OTWITHSTANDING the denunciation in the *Cottage Gardener's Dictionary*, to the effect that "all bulbs which flower without their leaves are objectionable," I must put in a claim for the Belladonna Lily as being not only not objectionable, but very highly to be desired, for its great beauty, and for its real usefulness. During the month of October, when cut flowers from the open air are apt to partake of a common character—I use the word "common" not in derogation of the flowers themselves, for in this sense no flowers are common even if plentiful, but in regard to the estimation in which they are held, because they are to be found in most gardens—this possesses a most redeeming character, being not only chaste and beautiful, but very uncommon. It is for this reason that I have thought it desirable to call attention to it, believing it to be not so much known and appreciated as it ought to be. Its culture is, perhaps, the most easy and simple required by any plant we have under our care, and it is just this—After Careful Planting, LET IT ALONE. Give the foliage free scope for growth, and don't disturb the roots more than once, or at most twice, say, in a quarter of a century.

It may be asked what I mean by careful planting, and to reply, I must enter a little more into detail; and, as I have for some years been experimenting with these Lilies in various situations, I feel in a position to write something about them. There is at the present time, in front of a greenhouse at Redleaf, a narrow border about 30 ft. long and 18 in. wide, planted thickly with Tea-scented Roses. Some twenty years ago, I took up a few patches of Belladonna Lilies, which I found in the border, and planted them in all the intervals between the roses, and in this small space, after cutting about 60 spikes, I find there are 120 spikes now (October) in bloom, with several more coming on. In another situation, at the base of a south wall, five bulbs were planted twelve years ago; they have not been disturbed, and to-day there are 19 spikes in full bloom in a space of one square foot. In the former case, where they are planted among the roses, the want of foliage is not felt, because they shoot up through the green branches, and form very beautiful and striking objects, being in full beauty at a season when other things are waning.

Now, no one must conclude that effects like these can be produced in a single season, though it perhaps might be done with imported flowering bulbs. I am alluding to bulbs which have been well established in their places for a number of years, and it requires several years to get them to flower in such profusion. Much also depends upon the temperature of the autumn. I have known hundreds of spikes killed down by an early frost; but this rarely occurs to such an

extent as to be really injurious, and in five years out of six, at least, a good show may be calculated upon.

I before observed that I had experimented upon them in various ways, by which I mean that I have tried them in all sorts of situations, all over the place, wherever I could get a sheltered nook or situation open to the south. They live and grow in a north aspect, but they will not flower, for they require the extreme heat of the summer sun to set the bloom. I have, therefore, planted them at the base of south walls, in borders running along the front of greenhouses, and in the nooks and angles of rockwork open to the south. I have seldom made any great preparation as to compost, as I do not think they are very particular about that, "provided always" that the drainage is perfect. I don't expect they would grow in clay full of water; but if the clay were mixed with sand and vegetable mould, and thoroughly drained, they would do well.

Thus, then, what I mean by careful planting, is to secure a thoroughly efficient drainage, on the principle that where drainage is really efficient, extreme cold has less power of injury, and extreme heat more power for ripening the bulbs, and inducing a flowering habit. I had almost written that the compost is immaterial, but I must qualify that. I have planted them in light sandy soil, in stiff loam, and in common garden soil, without any preparation; and my opinion is that an admixture of loam, peat, leaf-mould, and sand in equal proportions would be a compost in which they would flourish most luxuriantly. They must be planted at least 6 in. deep—7 in., or even 8 in., is not too much in cold localities—and the foliage must be retained until it dies away naturally, for if cut off whilst green, there will be no flowers.

*Redleaf.*

JOHN COX.

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### THE NEW PELARGONIUMS OF 1869.

IT is fitting that, at the close of a season, a review should be made in order to ascertain what that is really good has been added to the lists of any one flower ranking high in the estimation of the florist. That the Pelargonium does rank high is a fact beyond dispute; and it is equally certain that it is among the most beautiful of the summer-blooming plants that play so distinguished a part at the great floral exhibitions.

The honoured names of Beck, Foster, and Hoyle are yet among us, and those who bear them are busy in the task of improving that flower, to which, through a long number of years, they have devoted especial attention. None of Mr. Beck's new flowers have been exhibited during the past summer. For some reason or other, Mr. Wiggins has discontinued presenting them in public, apparently preferring to rely on a reputation that has been deservedly great through a long series of years. Mr. Beck has a large group of new flowers of the present year, and of these six varieties stand out boldly as acquisitions, viz. :—*Bacchus*, rose ground, lower petals heavily painted, the dark maroon top petals with regular

pink margin, white throat, the flowers large, bold, and of fine shape; *Dove*, a large pure white flower, of very fine shape and substance, the large dark blotch on the top petals lit up with fiery carmine and edged with pink; *Firefly*, bright red, having a dark spot on each petal, dark top petals, fine shape, and remarkably free-blooming; *Hebe*, lower petals pink, spotted with dark chocolate, dark top petals margined with pink, flowers large and bold; *Rosea floribunda*, rose lower petals, with large white throat, large dark blotch on top petals, margined with lively rose, flowers large in size, and of good shape; and *Victoria*, a fine and striking flower, salmon-rose lower petals, large white throat, dark top petals, lit up with vermilion, and edged with deep rose.

Some of the best of Mr. Foster's flowers, or rather those that have taken honours during the past season, are not to be distributed till next year. Of those Mr. Turner will send out, four are of very fine quality, and have received First-Class Certificates, namely:—*Corsair*, bright purple, with pure white throat, very dark top petals, lit up with orange-red, dwarf habit, very free and pleasing, and altogether one of the finest new flowers of the year; *Her Majesty*, lower petals pale pink, small black blotch on top petals, large clear white throat, fine shape and quality; *Heroine*, a large and beautifully formed flower, lower petals soft rosy pink, top petals marked with maroon spots and a margin of orange-rose, large white throat, free, and yet dwarf in growth; and *Maid of Honour*, light rosy pink, small dark maroon blotch on top petals, lit up with orange, large white throat, a fine and bold exhibition variety. Three other good flowers of Mr. Foster's raising are also to be sent out with the foregoing, viz.:—*Attraction*, soft rosy lilac, small maroon spots on lower petals, large clear white throat, a novel and pleasing flower; *Harold*, lower petals deep orange-rose, heavily painted with dark, glossy black top petals, with regular narrow edge of rosy crimson, free blooming, and of good habit; and *Plantagenet*, light rosy pink, upper petals rich maroon, with margin of orange rose, white throat, a large and bold flower.

Of Mr. Hoyle's flowers, Mr. Turner will distribute a set of nine, two or three of the most distinct being held back, no doubt, from want of stock. Of those to be sent out, three have received First-Class Certificates, viz.:—*Bonnie Charlie*, lower petals rosy crimson, the top petals black, with a thin margin of crimson, and contrasted by a large pure white throat; *Gratulation*, rose lower petals, glossy maroon top petals with black spot, shaded with crimson, and margined with pale rose, pure white throat; and *Velutina*, one of those pleasing purple flowers so useful on the exhibition stage, the lower petals pale purple with small dark spot on each, black top petals with indistinct verge of purple, white throat, fine and smooth. The others composing Mr. Hoyle's batch are:—*Claribel*, pure white, with small spot of the brightest carmine on the top petals, a very pleasing and distinct flower; *Cycle*, lower petals rosy purple, dark maroon top petals, with margin of rose, and white throat; *Jerome*, fiery orange lower petals, heavily overlaid with dark veins, black top petals with narrow edge of fiery deep


rose, a fine dark flower; *Llewellyn*, rich deep crimson, with dark maroon upper petals, a fine glossy flower; *Marion Willie*, pale rosy pink, with dark spots on top petals, and white throat, large and showy; and *Regent*, lower petals bright crimson, dark top petals margined with bright carmine, fine shape and substance.

Probably the grandest lot of Fancy Pelargoniums ever sent out is announced by Mr. Turner this autumn. They form a batch of six varieties, all of Mr. Turner's raising, and every one has received a First-Class Certificate; they are:—*Agrippa*, white, with large pale lilac spot on top petals, and smaller spots on the lower petals, very free, of fine form, and quite distinct; *East Lyme*, lower petals white, heavily marked with crimson-purple, top petals bright crimson shaded with violet, large white throat, and fine shape; *Excelsior*, a fine dark rose self-coloured flower, with large white eye and margin, very smooth, and finely formed, altogether first-rate; *Lady Carrington*, soft pale peach lower petals, the top petals suffused with pale pink, clear white throat; *Leotard*, a very fine bright cherry-rose self-flower, with large white centre and margin of the same, a flower of great substance and smoothness; and *Marmion*, an equally fine flower with the foregoing, bright deep rose shaded with purple, clear white throat and narrow edge of the same, large and bold. In point of habit it may be truthfully said of each of these fine fancy flowers, that they are vigorous growers, and yet compact in habit. The foregoing, with *Princess Teck*, *Brightness*, *Fanny Gair*, and *Mrs. Alfred Wigan*, of last year's batch, will give an entirely new character to the exhibition stage. It is to be hoped that ample opportunity will be offered in the future for seeing these grand new kinds worthily represented at the great flower shows, the whole of which are surely not to be entirely lost to us.

The new Zonal, Nosegay, and Variegated Pelargoniums have been touched on as they have put in appearance. They are comparatively few in number as compared with last year, and it is well there should be an occasional respite from the almost continual recurrence of forms cast after the same fashion. But one new Variegated Zonal Pelargonium has put in appearance having any claim to high character, namely, *Mary James* (James), and this was seen in a very young state. In the class of Hybrid Nosegays, grand additions have been made, especially in point of form, so much so that the line of demarcation between a Nosegay and an ordinary Zonal Pelargonium will soon be altogether obliterated.

Qto.

### IRESINE LINDENI.

F the new *Iresine Lindenii* I forward a few leaves to show its colour and markings [—beautifully coloured and well developed, about 4 in. long]. It was planted out in an exposed place in the last week of June, in common garden soil, without any preparation whatever, and it has grown with great vigour, and withstood all kinds of weather admirably. I planted around it some of the bronze Pelargonium, *Beauty of Calderdale*, and this little batch of

plants has been greatly admired by many persons for its fine effect. When the wind blows sufficiently during sunshine to move the foliage, the Iresine appears at once to put on a new charm, for it exhibits various shades of colour, which are, moreover, very much heightened by those of the Pelargonium. I have been so much pleased with it, that I shall grow it largely another season; and when it is within the reach of all cultivators as to price, I think it will become a thoroughly popular and useful bedding plant.

*Lillesden, Hawkhurst.*

THOMAS RECORD.

### PORTABLE AND CONVERTIBLE GLASS SCREENS.

**A** FIXED Glass Screen is a house, neither more nor less. It may be wide or narrow, flimsily put together, or substantially built, but its fixity converts it into a house, and removes it from the category of temporary expedients to fight the cold at its coldest, and to be cast aside when the warmth of summer renders it no longer needful.

Throughout the greater portion of these islands, our superior wall fruits do as well or better, during nine or ten months of the year, without protection as with it. Hence the importance of a portable shelter that can come and go at the shortest notice, and be as perfect a protection as possible while it remains. In this particular, nothing has yet been found to equal glass. The fact of its being water-proof and air-tight, constitutes it the best wall of division between the trees and the external air. The trees under cover of the glass can laugh at the power of the storm, and defy its piercing force. This free outlook into the sun-light, and the barrier it sets up to the ingress of wet and cold, constitute the chief merits of glass as a tree-protector. The self-same qualities—transparency and impenetrability—that shut out cold, let in and keep in a maximum of heat. It is in these qualities that the immense superiority of glass over opaque protectors is seen and felt. The latter, indeed, shut out cold in the exact ratio of their thickness and conductive powers; but they shut out the heat with the self-same force, while no sooner are they wetted than they become active sources of cold—ice screens, robbing trees and walls alike of all their stored-up caloric, until an equilibrium of iciness is established between them. These characteristics reduce the protective force of such screens as canvas, bunting, straw bands, mats, nets, &c., to the lowest minimum, while their permeability opens a myriad doors of admission for the cold external air to rush through upon the trees. Glass is a perfect antidote against any such loss of heat; its lucid transparency tempts every ray of light and every fleeting vibratory wave of heat through from the outside to the in, and both living tree and dead brick lay themselves out to entertain and fix the genial visitors. It is thus that the superlative importance of glass screens becomes manifest. They work to warm the whole of the protected area, and all it contains. It is on the surface of the glass that the fiercest fight for victory takes place between heat and cold (using the terms

in a popular sense), and it is just here that such assistance might readily be given, as to bring the former off an easy victor.

We have glanced at the strong points of glass protectors, let us now look for a moment at their one weak place. Transparency is their chief merit, but it is likewise their greatest demerit. It is a law of transparent bodies in general, and of glass in particular, that heat can be spirited away through them by what is termed radiation,—that is, nature's perpetual struggle after an equilibrium of temperature. There are two obvious methods of counteracting this force of radiation. One is by the creation of an internal source of heat, to glut to satiation this greedy robber of caloric, and yet generate a sufficient reserve for protective purposes; but this mode is expensive. Another is to baffle the thief on his own ground, by hiding the transparent face of glass by an opaque covering. The thinnest bunting or canvas spread over the outside—or, better still, the inside—of glass, would neutralize the powers of radiation, and it is surprising that this check is not more generally used.

But ready portability is one of the first characteristics of all good wall tree-protectors. Their value may be said to sink or rise in proportion as they are portable or otherwise. Fixed protectors induce tenderness, and thus, while they work to exclude the cold, they render the tree susceptible of equal injury by a less amount of it. Hence the common saying, that protection does as much or more harm than good. Hence, also, the various modes, by pulleys, cords, rings, rollers, &c., of imparting ready motion to canvas or blinds used against walls.

With glass protectors the importance of portability has been less thought about, because its necessity is less obvious. They do not exclude the light, and light is the best antidote to weakness. But in these days, when the economy of force is better understood, and it has been discovered that no force is expended in vain in the economy of the universe, it is, to say the least of it, a reckless waste of power to erect a permanent glass screen to effect a purpose which would be equally well or better accomplished by a temporary shelter.

Hitherto, one of the chief difficulties in the way of using temporary glass screens has been our manner of building and glazing glass houses. Glass, as we all know, till recently has been brittle in quality and expensive in price. We have thus become almost afraid to touch it. When employing it, our object has been to get it out of hand and beyond risk of breakage as soon as possible, and to leave it alone as long as we could. Hence our monstrously cumbersome and solid modes of building, and our permanent, immovable methods of glazing. They were born of the dearth, inferiority, and high price of glass, but the time is at hand when horticulturists will use house glass with as much ease and as little risk or fear of breakage as they now use garden pots. The abolition, by Mr. Beard, of sticky modes of glazing, has been one great step in this direction. The doing away with all glazing whatever, as Mr. Rendle has done in his portable tile and glass protectors for the growth of fruits, flowers, or vegetables, is another. These

new modes of using glass in the formation of houses, screens, or ground or wall protectors, mark a new era in its portability. By the adoption of Beard's patent wrought-iron bars, and his felt buffers for the glass, the house or screen of to-day, may be converted into a box of glass, a bundle of iron, and a roll of felt to-morrow. Rendle's Protectors, again, are simple, and instantaneously resolved into heaps of bricks, and boxes of glass.

In Beard's wall-tree screens each rafter is complete in itself, and like every other rafter of the series. An iron wall-plate is laid along the ground or raised on brick walls, or piers, or wooden posts, at the option of the user. On this plate, raised lugs are cast, in pairs, at intervals of 20 in., and pierced with holes, and into each of these spaces between the lugs, the lower end of the rafter is placed, and an iron pin is passed through the pierced lug and bottom of the rafter. Along the top of the wall, just under the coping, an iron bar is carried along, being held in position by a few staples driven into or bolts run through the wall. To this support the upper end of the rafter is hooked or tied on. Thus the

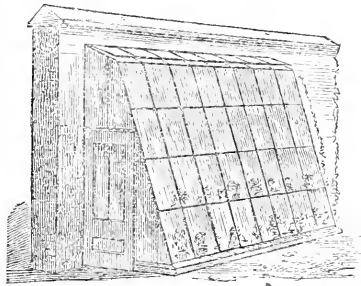


FIG. 1.

top and bottom are immovably fixed in the right places. But something more is needful to keep the bars in position and brace them into greater stiffness. It will be observed from fig. 1, which shows the screen at work on the wall, that the upper portion of the bar is bent. This form acts like a bracing tie on the rafter, and gives it additional strength. It is likewise of great service in throwing out the bar from the top portion of the wall, and enabling it to be brought down at a nearly uniform distance from it. This arrangement of surface is likewise the best possible for counteracting the energy of radiation by compensation from surrounding bodies. About half-way between these bands and the base of the bar, other holes are pierced; through these convenient lengths of iron rod are run, and are rendered continuous and without break, for any distance, by the use of coupling screws that bind the handy lengths together. Upon this bar, small pipes, whose length is exactly the width between the rafters, are placed; and these, as the screws are tightened, abut against the rafters on each side, and keep the whole quite firm. Then follows a buffer of prepared felt on the top of the iron rafter; next, a sheet of 26-oz. glass, then a second buffer of felt, and finally, the covering bar,



with a fixing nut,—and the screen is finished. The ends are made to fit anywhere, so that the screen may be shortened and lengthened at pleasure. In fact, it can be adapted to any position, and erected or taken down almost as soon as this description of its construction and dissolution can be read.

Fig. 1 shows the glass screen secured to the wall by a hook or staple, and keyed to the cast-iron base. The base, that is, the wall or ground plate, may be fastened to a plank, or to plugs driven into the ground at intervals, or to brick pinning; in either case a proper level must be retained. Fig. 2 shows the screen converted into an upright span vinery, or orchard house, by placing two lengths of it back to back, and fastening them together. Fig. 3 shows the same screen converted into a valuable span, or lean-to, by reversing the bars; the short end being turned towards the base, and keyed with a pin.

The thorough portability of Beard's screens may be said to be the parent of their convertibility; they are readily moved, and as readily converted to other uses after being transposed. About the middle or end of May, for instance, they might disappear from the face of our walls, since the fruit and trees will then

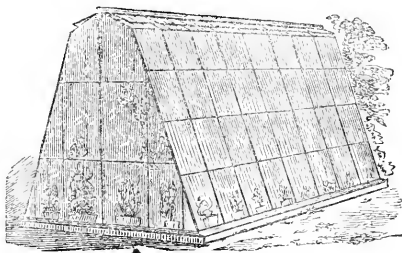


FIG. 2.

grow, and finish both crop and wood, as well or better without them. Here there is, say, a hundred feet run of glass relieved from active service. What shall we do with it? It may simply be reserved for future use, for it can be snugly and safely stored in the smallest space, and kept again till the following February or March. And this has mostly been the manner of treating wood or glass screens that have possessed a sort of portability in the form of sashes; and for such screens, possibly, the storing-away method was as good as any, for they were pre-eminently perishable. But these iron-bar screens are not only portable, but indestructible. Who can wear out or rust out glass? and iron coated with magnetic paint will last for many long lives. Time will, indeed, rot felt, but enough for a screen can be had ready for use for a few shillings. With such screens in our hands, it would be a sheer waste of power, or a glaring improvidence of useful resources, not to use them constantly. There is not a garden of any pretensions in the country where 100 yards of such glass screens could not find constant and profitable employment throughout the year. The moment they could be released from the walls, they could be placed over vines, either on walls, on espaliers, or on the

ground, or to cover spaces devoted to vines, tied up like raspberry canes on the French method. Or the two fronts of the screen might be converted into a narrow, upright, span-roofed house, admirably adapted for a late vinery, as in fig. 2. The screens might readily be placed over pits, or frames, or over spaces in the open ground, provided with bottom heat by means of dung, for the growth of melons, cucumbers, tomatos, capsicums, &c.; or any of these could be well grown in such screens against an empty wall, as in fig. 1, or in the narrow house formed with the two screens, as in fig. 2. Then, again, what capital protection they would afford for second crops of strawberries, from forced plants in the open ground, for late cauliflower, winter salading, winter or very early spring radishes, carrots, &c., and for the safe storage of Walcheren broccoli for winter use! The narrow house (fig. 2) would form an admirable structure for the growth of late or summer-flowering plants for the conservatory, such as *Thunbergias*, *Salvias*, *Pelargoniums*, *Fuchsias*, &c. Flooded with light from top to bottom, and close to the glass on each side, such plants would be all bloom. Or for a real plant-house, such as fig. 3, it is only needful to invert the bars, and the bent

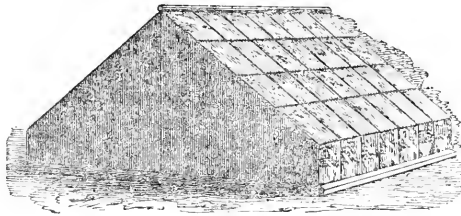


FIG. 3.

portion would become a side-light, and the other ends could be fixed together with a central plug of wood or iron, and rendered waterproof by a simple coping. The screens could thus be converted into one of the best possible plant-houses for the growth of such semi-stove plants as *Euphorbias*, *Begonias*, *Poinsettias*, *Gesneras*, and many of the hardier stove ferns for room, conservatory, or stove decoration in winter. Thus the usual strain upon the glass houses during summer would be relaxed, and room be made for an artistic arrangement of specimen plants and climbers, which would bring up the beauty of the glass show-houses to a nearer approximation with the high summer beauty to be seen outside.

These screens, when not in use as mere protectors, might, by such conversion, be made to serve any purpose of permanent unheated houses. Good in themselves, portable beyond all precedent, and as readily convertible as they are easily portable, strong, elegant, and cheap, I prophesy for them a distinguished future, in which they will largely help to clothe our walls and load our tables with plenty, and fill our glass and dwelling houses with the highest forms of beauty.

*Hardwicke, Bury St. Edmund's.*

D. T. FISH, F.R.H.S.

## NEW FOLIAGE BEDDING PLANTS.

ACCORDING to my estimate of their merits, the following are the five best of the new foliage plants, adapted for bedding purposes, which have recently come into the hands of cultivators. As I have paid some attention to them in their various stages of growth, and have thus gained some experience of their habits and characters, I propose to add a few observations upon each. I consider *Iresine Lindenii* to be unquestionably the bedding acquisition of the season :—

**IRESINE LINDENII.**—This is perfectly distinct from *I. Herbstii*, although of a similar habit and character. It differs in this way : *I. Lindenii* has little or no variegation in its colour, but is of a beautiful glossy, dark blood-red, both in the stems and leaves. The latter are peculiarly neat and pleasing, being lanceolate in outline, and quite flat. The plant is a quick, branching, robust grower, and may be cut or pegged down to any required height. It is exceedingly easy to multiply, grows on through all kinds of ordinary summer and autumn weather, and stands without injury until it becomes subjected to several degrees of frost.

**CINERARIA ACANTHIFOLIA.**—This, like the above, is grown for its ornamental leafage, and somewhat resembles *C. maritima*, but has the foliage more thistle-like in form. It is far more attractive than the *Centaurea*, and possesses more of silvery or frosty whiteness than any plant that I am acquainted with. It is of vigorous, upright growth, but can be kept pinched down to any required height. For growing as a single pot specimen for the decoration of the conservatory, the hall, or the balcony, this is a really valuable plant.

**ACHYROCLINE SANDERSONI.**—This is also remarkable as a white-leaved plant. For contrast with *Alternanthera*, *Lobelia*, *Golden Feather*, or any similarly dwarf-growing plant, where scroll or pannel bedding is carried out, this is exceedingly useful, as it rarely exceeds 6 in. or 8 in. in height, and grows as much through during the season. Its growth is very thick, forming quite a miniature bush. It can be pinched or clipped into any required shape.

**GNAPHALIUM TOMENTOSUM.**—This is very similar in appearance to the common lavender, but has a more slender branching habit of growth. It is much whiter than the common *G. lanatum*, and is almost equally easy to increase. This plant will grow from a foot to eighteen inches high, but can be clipped to any height or form. I think, judging from its quick growth and convenient habit, that this will be extensively used for bedding purposes.

**ABUTILON THOMPSONI.**—This most singular plant, which has beautifully blotched leaves, was thought to require a stove temperature when first introduced, but during both the last and the present season it has formed a grand object in the flower garden. The leafage and growth are very similar to those of *A. striatum*, with the exception that it is dwarfer and more dense, with foliage of a beautiful light glossy green, every leaf being beautifully spotted and blotched with yellow, which gradually turns with age to a glossy silvery hue. So uniquely is the leaf spangled with these attractive colours, that, without the plant is minutely examined, one can scarcely be brought to believe that its peculiar blotching can be natural.

There can be no doubt but that the above-named plants will play a most conspicuous part in our future bedding arrangements.

Woolwich.

H. CANNELL, F.R.H.S.

## MONTHLY CHRONICLE.

DAHLIA *imperialis* has been flowered this season in great beauty in the garden of the Royal Horticultural Society at Chiswick, and in other establishments. The plant is naturally of a very tall-growing habit, and at Chiswick, but for an accident, would have been at least 20 ft. high.

Though broken off at top, it was still 12 ft. high, each of the numerous branches terminated by a grand panicle inflorescence of beautiful lily-like white flowers, of which we hope shortly to give an illustration. As a late-flowering conservatory plant, this *Dahlia* is a noble acquisition. Its principal drawback is its great height, but this objection Mr. Alfred Salter,

of the Versailles Nursery, Hammersmith, has obviated, by grafting a young shoot of *Dahlia imperialis* on a tuber of one of the liliputian kinds. The scion at once branches out into a pyramidal head, the upper branches of which are clothed with flower-buds. The grafted plant, in fact, looks as though the top of one of these tall Dahlias had been removed and struck as a cutting. Comparatively few persons can give this noble plant sufficient head-room under ordinary circumstances; but this successful experiment of Mr. Salter's will bring it within the reach of all who have a moderate-sized greenhouse or conservatory. The plant requires a little extra heat just to bring out the flowers.

— THE leaf of the *Victoria regia* is enabled to sustain a great weight, owing to the deep cell-like compartments formed by the prominent reticulated ribs of the under-surface. In some experiments recently made by Mr. W. Sowerby, in the Regent's Park Botanic Garden, a not very perfect leaf was found capable of bearing up a load of 436 lb.

— SOME of Mr. Banks' new Fuchsias, sent us by Mr. H. Cannell, are remarkable for their size and beauty. One is quite a monster, the corolla being fully 3 in. in expansion, the individual petals  $1\frac{1}{2}$  in. long, and  $1\frac{3}{4}$  in. broad. Another refined expanded flower measures fully  $2\frac{1}{2}$  in. across the corolla, both these being of a reddish violet; while a third, nearly equal in size, has a rosy lilac corolla.

— DURING the past autumn, fruits of the Mango have been offered for sale in Covent Garden Market, thereby realizing a prediction made many years ago by the late Sir Joseph Banks. These fruits had been obtained from Madeira. The Mango had already fruited at Chatsworth, in the gardens of Lord Powis, and elsewhere, but this is supposed to be the first time it has been offered for sale in this country.

— THE correct name of the plant known in gardens as *Acalypha tricolor*, a name given to it by Dr. Seemann, has now been ascertained to be *Acalypha Wilkesiana*. It is one of the most striking of foliage plants, and is not only beautiful in itself, but affords variety. Dr. Seemann in his *Flora Vitiensis* thus remarks on it:—"This shrub attains about 10 ft. in height, and its foliage has generally the colour of our Copper Beeches; but very often the leaves assume a great variety of tints—pink, yellow, and brown, and then the plant is highly ornamental. It is often cultivated by the natives."

— THE following Presentations have recently been made:—To Mr. JAMES BARNES, on the occasion of his leaving Bicton. This testimonial consisted of a silver tea service, on which was the following inscription: "Presented to Mr. James Barnes, for 30 years director and manager of the Bicton Gardens, &c., by attached friends, in recognition of his manly sincerity, integrity of character, and benevolence and geniality of disposition; and in appreciation of the valuable services he has rendered, through a long and useful life, to horticultural science, practical gardening, and agriculture."—To Mr. THOMAS BAINES, on the occasion of his removing from Bowdon to the vicinity of London, with his esteemed employer, Horatio Micholls, Esq. This presentation consisted of a gold watch and an address. The latter, illuminated on vellum, and mounted in a handsome gilt frame, was as follows: "Presented, with a gold watch, to Mr. Thomas Baines, by the gardeners and friends of Altrincham, Bowdon, &c., on his leaving the neighbourhood, as a mark of their esteem and regard, October 27, 1869." The watch bore a similar inscription.

### Obituary.

— DR. MACLEAN died in the early part of October last at Colchester, where he had resided for the last fifty years. Horticulture loses in him one of that small band of practical experimentalists whose labours are so valuable. Though in practice as a physician, his leisure hours were devoted to horticulture and floriculture, and his name will be especially remembered in connection with new Pinks and new Peas.

— MR. HENRY TAIT, of the Sydenham Nursery, Kelso, died on November 11th. He had been for thirty-six years a nurseryman of that town.

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