THE GARDEN MAGAZINE

VOL. XX, No. 1.
~~VOL. XIX, No. 7~~

AUGUST, 1914

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THE GARDEN MAGAZINE

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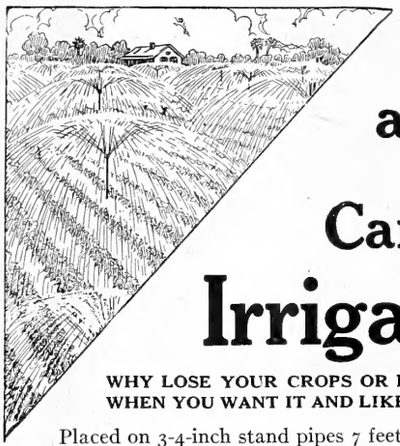

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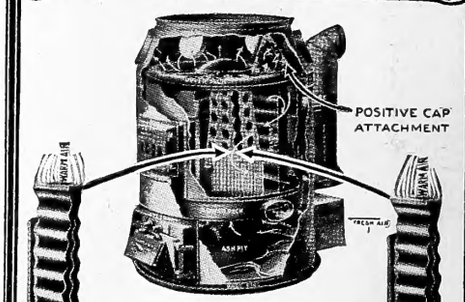

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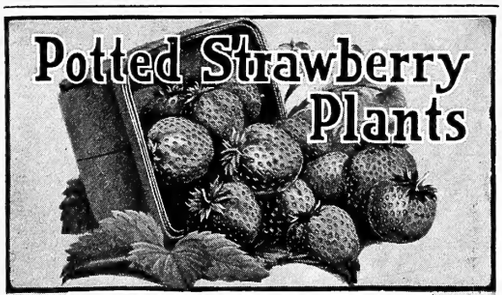

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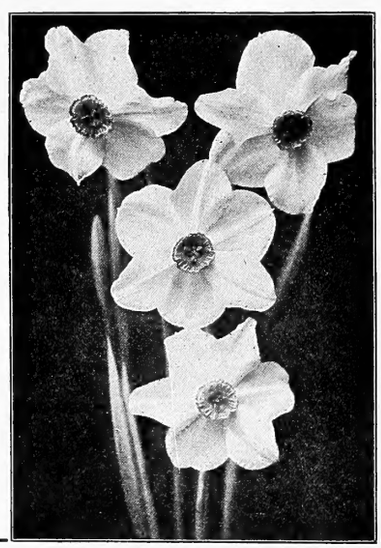

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THE TALK OF THE OFFICE

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra.*

A LITTLE JOURNEY IN THE WORLD

FROM Garden City to Berlin and Leipzig is not so great a distance, but such a journey may put one in touch with many interesting people and things.

To speak of the farthest point first — The present chronicler journeyed to the great book exhibition in Leipzig which rejoices in the fragile name of Internationalen Ausstellung für Buchgewerbe und Graphik. Here the publishers of the world (excepting America) combined to give a great show of books of all kinds, of pictures and magazines, of machines for printing and binding, and kindred things. The number and size of the buildings would be, we should guess, about equal to those of the Buffalo exhibition in 1901, some of them a thousand feet long or more, and many, like the English, the French, the Austrian and the Italian, not to forget the little Japanese building, displaying the national characteristics of the architecture of each country.

What perhaps surprises one more than anything else is the fact that some thirty or forty thousand people a day flock to this great book show — people really interested in books. No such crowd could probably be brought together for such a purpose in any other country in the world. Certainly the Germans have the science of bookselling developed to the highest efficiency, and one authority estimates that about three times as many titles are issued in Germany each year (about 30,000 to our 10,000), and in quantity about twice as many books as we print in this country.

It is interesting, too, to find that the German law is exactly opposite to the American. In that country the publisher having fixed a retail price for selling his book, is expected to give the jobber a certain discount, and the retailer his discount; but the book must eventually be sold to the customer at the exact price set when the book is published. If any one of these persons who handles the book is guilty of breaking the price, he is punished by fine or in extreme case by imprisonment. Of course, such a combination to preserve prices in this country is against the provisions of the Sherman law. The fact is that in the whole of Germany there are about ten thousand good booksellers, and they adequately supply the demand for books to the smallest community. The scholar and student has been attracted to the business, and for a nation of 65,000,000 people there are about four times as many booksellers as for our own nation of nearly 100,000,000 people.

All of which is not new, but interesting when encountered at first hand. The book trade in Germany is apparently prosperous.

In England there is the usual flood of new books being prepared for the fall. Mrs. Humphry Ward has a novel about the suffragettes which will be issued in this country by Hearst—a gentleman who has added to his newspapers and magazines a book publishing business, and who will no doubt show the rest of us a thing or two. Rudyard Kipling is completing a series of travel papers on *Egypt*, which with other chapters will make a volume of Travel Letters in the spring of 1915. The Countess von Arnim has just finished a novel — the first since "The Caravaners" — called "The Pastor's Wife." The Countess lives on a mountain top in Switzerland, and has been much delayed in finishing the book, on which she has been working for two years or more. Joseph Conrad has also finished a novel which will come in the spring, and he himself has been induced by Doubleday, Page & Co. to make a visit to America in October of this year. Mr. Conrad sailed the Seven Seas for a score of years, but never saw New York, and his friends will be glad to know of his eager interest to visit us. With him will come Mr. J. B. Pinker, the literary agent, who has been a lifelong friend of the author of "Chance."

"RUN-OVERS"

A reader of The Garden Magazine or Country Life recently wrote us a long letter. He took a large sheet of paper, folded it into sixteen pages, began his letter on page one, continued it on page nine, jumped to the middle of page seven, then to the top of page twelve, etc., etc. At the end of this quaint epistle he said, "If you have read this letter, you will know how it feels to read your magazines, which are full of 'runovers.'"

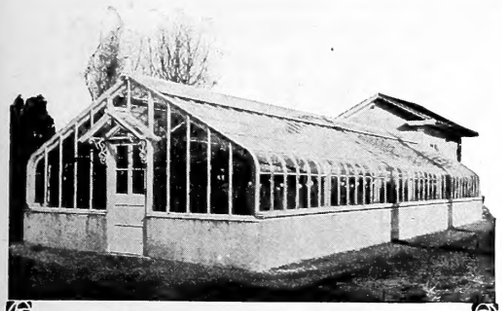
To this gentleman and others who, like him, do not approve of the words, "Continued on page so and so," we stand with hands up, and we have the editors' word for it that they will reform as soon as a new "make-up" can be devised. The temptation to "run over" articles comes through the desire to make a brave show of striking articles and large pictures in the opening pages, and not, as some readers have intimated, to lead people to turn to the advertising section. Fortunately for us, our advertisements are in themselves so interesting, entertaining and beautiful, that we do not have to resort to subterfuges to get people to read them, and, of course, the fact is that tricks of this sort accomplish nothing: people read what they will, and nothing can make them read what does not interest them.

THE TREE GUIDE

Miss Julia E. Rogers has made this new volume of the little Guide Series which goes to hundreds of thousands of readers each year. It is uniform with the Flower Guide and the Bird Guides, and has hundreds of illustrations, in black and white, and color. Many owners of the Reed series will be glad to know of this book, the price of which is $1.00 in cloth, and $1.25 in leather.

BIG BUSINESS AND PUBLICITY

There are a great many substantial concerns who would be glad to get before an impartial public the interesting facts about their great businesses, consisting, as the clerk of the court so eloquently puts it, of "the truth, the whole truth, and nothing but the truth." A book on these frank and aboveboard lines has just been published by us describing the beginning and development of a great organization, The United Fruit Company — under the title, "The Conquest of the Tropics." If you are interested in that subject or that company, you might like a copy of the book, which can be purchased through any bookseller or from Doubleday, Page & Company, and we hope that there may be other interesting books in this series telling a frank and interesting story of achievement.



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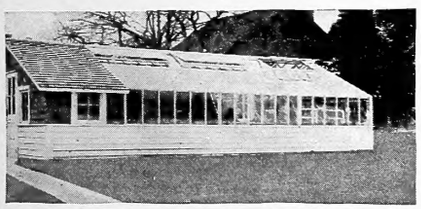

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Plant some bulbs during August and September and enjoy a big crop of flowers next June or pot up, store in cold frame, and force for early Winter in the greenhouse or conservatory.

Extra Large bulbs	**15c. each**	**$1.50 doz.**	**$10. per 100**
Jumbo bulbs	**25c. each**	**$2.50 doz.**	**$15. per 100**

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Plant a dozen bulbs in a 5-inch pot and enjoy a feast of blooms for Christmas. Where a continuous display during winter is desired, plant a dozen or more pots and set in cold frames bringing in at intervals of two weeks from October. Excellent for cutting, remaining in good condition a week or more in water. Much superior to the popular Refracta Alba Freesia, in size of flower, strength of stem, (often measuring 20 inches) and purity of color.

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On all orders amounting to $5. or more, express charges paid anywhere in United States

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For Fall Planting

I have a particularly choice selection of Peonies, Roses, and Hardy Perennials which, set out this fall, will gladden the heart of the true garden lover next spring. Send today for interesting booklets.

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A LAWN EXPERT will answer your lawn questions and advise how to get the best lawns through Readers' Service.

The Index of Contents and Title Page for Volume XIX. of THE GARDEN MAGAZINE has been prepared and is now ready to be sent to subscribers, free, upon application.

The Readers' Service is prepared to advise parents in regard to schools

THE GARDEN MAGAZINE

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AUGUST 1914

SUBSCRIPTION: $1.50 a year Single copies, 15 cts.

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Of this glorious white Peony we now have a stock of over ten thousand plants, and to induce people to plant it in quantity we have decided to offer it at a specially low price. It is the most satisfactory Peony in cultivation, and cannot be surpassed either for cut flowers or for decorative effect in the garden. Very large, pure white flower, with a few blood-red stains in the center; tall stalks, beautiful foliage and very free-flowering. Strong flowering plants, 75 cts. each, $8 per doz. $50 per 100. Small plants 30 cents each, $3 per doz.

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Quantity Wanted	PEONIES	Each	Per doz.
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The Garden Magazine

VOLUME XX AUGUST, 1914 NUMBER 1

THE MONTH'S REMINDER

COMPILED WITH SPECIAL REFERENCE TO THE HOME GARDEN, FROM THE TEN YEARS' DIARIES OF A PRACTICAL EXPERT GARDENER

For reckoning dates, the latitude of New York City is generally taken as a standard. In applying the directions to other localities, allow six days' difference for every hundred miles of latitude

THE one important task for August is the selection and ordering of bulbs for all purposes—bulbs for formal effects, bulbs for natural plantings, bulbs for forcing — the whole programme should be thought of thoroughly now, and your bulb order placed. Bulbs are far too little used considering that there is nothing that will give bigger returns.

Order Bulbs Now

BULBOUS plants, generally speaking, give spring flowers, yet by careful selection you can get a variety that will cover five months, from the pretty little snowdrop in April to some of the late flowering lilies in August or even September.

For rock garden or alpine effects, crocus, scillas, grape hyacinths, and fritillaria are best. For naturalizing use bulbs that increase naturally, especially narcissus.

For shaded spots the trillium is excellent, and some of the small flowering narcissus or the true jonquil can be used.

For low meadow land the English and Spanish iris are adapted; or, if not too wet, the narcissus family can be brought into use for this purpose.

For flowering effects in formal beds, along the edges of shrubbery borders, or around dwellings the tulip certainly excels; all the types are fine, the Darwins, May flowering Gesneriana, the single early or doubles, each one used by itself—not mixed; the single or double hyacinths are also excellent for formal effects.

For Winter Flowers

BULB forcing has reached that stage of development that every place that has a greenhouse no matter how small, forces bulbs, there is a good reason for this, they flower easily, require very little space in the greenhouse and yield enormous returns.

During this month you can start the greenhouse going for the winter flowers and vegetables. Don't forget to grow some tomatoes indoors

All the hyacinths are excellent for forcing, the Roman hyacinth being one of the most popular of all forcing bulbs; early tulips are used extensively, the Darwins can be forced late in winter and are very showy, any of the narcissus force readily, many of the lilies are especially adapted to forcing and those that don't take kindly to forcing are retarded in cold storage so that they are available for the purpose.

The foregoing include the easily handled forcing kinds, there are a number of other types which are excellent, such as callas, allium, freesia, iris, ornithogalum, oxalis, the forcing gladiolus (*G. Colvillei* varieties), ranunculus, spirea, anemone, etc.

While most of these bulbs (or roots) cannot be planted this month, yet it is now time to give the matter attention. Orders placed now mean, first selection, no shortage on varie ies, and early delivery.

Boxes or pans (whichever are to be used for forcing) should be provided, so as to be on hand when wanted. The bulbs should be planted immediately upon their arrival, as it is harmful for them to lay around. You can get delivery now on callas and freesias and the others in succession at different periods, until the spireas or Japan lilies in November and December. Cold storage lilies for Christmas forcing are now available.

Seeds To Sow

START sowing peas for fall crops. Of late years (because of the mild fall weather) peas sown during August and September have been very successful. Make two sowings during the month, about the 1st and 15th. If the ground is dry soak the drill thoroughly before sowing. Soaking the seed only is not so safe because there is then no available moisture after germination.

Spinach can be sown along with the peas, and will give a crop far superior to spring spinach. Two or three sowings can be made during the month.

Make two sowings of beans this month. Keep the rows rather close together — say about 15 inches apart — and keep all successive sowings together so that a burlap or other cover can be placed over the rows to protect them from an early frost.

Sow at once several rows of beets and carrots for a winter supply.

From the middle to the latter part of this month is a good time to make a couple of big sowings of lettuce for fall use. Fall lettuce does finely, and you can figure that from sowings made the latter part of this month, you can have lettuce until Thanksgiving. A little covering is of course necessary, later on.

Late Crops

THIS is the last chance to set out late cauliflower and cabbage and don't forget the importance of a good start, so water liberally if dry weather prevails at the planting period. It is not too late to produce good celery from plants set out at this time, but they must be properly looked after, never allowed to suffer for want of water, and an occasional dose of nitrate of soda will hurry them along. You cannot get size from celery plants set out now, but you can get just as good quality as can be produced.

Early celery should be now ready for use and should be blanched for table use. There are a number of methods, a four-inch tile pipe is often used but sometimes causes "dampening"; wrapping with paper is also too close for this reason. The best method for blanching summer celery in small quantities is by boards, using two large boards, one on each side of the row and two boards for the top placed so they converge to form a roof over the trench.

Maturing Crops

MUSKMELONS should be ripe now, don't neglect to save your seed supply for next season from the first few melons to ripen, providing of course, they are of tip top quality. When picking your melons be careful not to trample the vines. Pick off and burn any diseased leaves, and any vines that die should be pulled up and destroyed.

Put onions in a dry place for keeping. Before storing away the necks should be twisted off; the larger onions that are intended for exhibition purpose should have the necks tied.

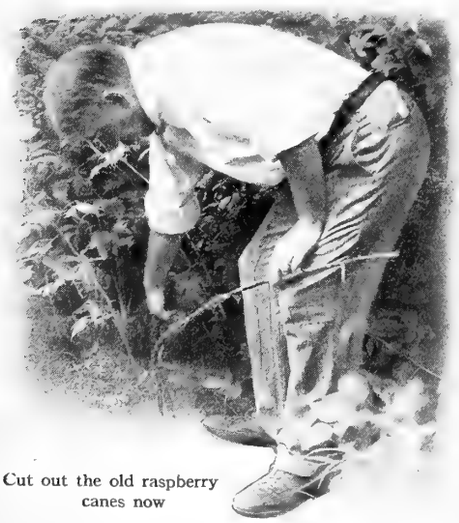
Select a few of your very best tomatoes to save seed from for next season's crop; this is very little trouble and insures at least as good as you have, if not better.

Don't fail to keep the runners lifted on the sweet potato plants, after this month you can let them grow unmolested.

When picking corn don't strip the ear to find out when the ear is full, try to accustom yourself to the feel of the ear when ready; you will soon learn, and an ear of corn is never as good after it has been stripped.

In the Greenhouse

NOW is the time to sow sweet peas indoors if you want your flowers ready for the holidays. Give them good rich earth — it positively cannot be too rich for sweet peas; and be sure you procure good seeds, of the winter flowering type. That is most important. Poor seeds are dear, even as a gift.



Cut out the old raspberry canes now

Carnations can now be benched and the house can be slightly shaded for a few days until the plants have started root action.

If you have not already sown your calceolaria and cinerarias as told in last month's GARDEN MAGAZINE, you had better sow them at once.

IT IS now time that all cuttings of bedding stock, such as geranium, coleus, achyranthus, ageratum, etc., be taken and rooted. Be sure you have enough stock plants to carry you over the winter; don't run short for the sake of a few extra cuttings.

Palms and other exotics that have been spending the summer out-of-doors should now be brought in as the cool nights are apt to make them lose their color.

Bedding Plants

Sow mignonette for forcing indoors, taking care to keep the plant cool and using a very rich heavy soil.

Stocks and schizanthus to be grown on in pots for indoor bloom can be sown this month.

Pansies intended for winter flowering in the frames should be sown early this month.

Late cabbage and cauliflower is ready to transplant now

Gloxinia, achimenes, fancy leaved caladium and all other summer flowering greenhouse bulbous plants should now be gradually dried off until by late fall they can be laid on their side for absolute rest.

Pot plants such as primulas, cyclamen, etc., which have been carried through the summer in a coldframe should be brought inside the latter part of this month.

Chrysanthemums

THIS is a very important month with the chrysanthemums,as it is "bud taking" time and much of one's success depends upon selecting the right bud; and getting it at the right time is equally important. The second crown bud of a chrysanthemum when produced from the middle of August to September 1st, gives the best exhibition flowers, but the terminal bud is the surest and can always be depended upon to produce a good flower, this bud comes later than the crown bud and can be told by the cluster of smaller buds around it. It is the safest bud for the amateur to take, but will not produce the big flowers which are seen at the November shows.

Forcing Vegetables

THE English frame cucumbers for forcing should be started now. This type of cucumber is quite different from the garden type, and is ever so much better in quality. A liberal supply of leafmold is necessary to grow this plant well, using it mixed in equal parts with good turfy loam with a sprinkling of sand to keep it open.

Artichoke sown now and wintered in a coldframe will not only produce fruit next season but will produce heads of wonderful quality and in good quantities.

Tomatoes for forcing should be started right away. Don't use the common garden type, but rather get one of the forcing types which will yield better results.

If you are fond of greens for winter use, a half bench of New Zealand spinach will be very satisfactory, this plant is a wonderful producer and is a really fine vegetable when properly served.

Parsley for winter use should have some attention, prepare a place in the frames which are heated or where heavy frost can be excluded and plant some roots lifted from the garden, remove the tops to help them get established.

Water cress sown at this time and wintered in a coldframe will produce all winter, cover the soil with sand and water several times a day, after the plants begin to grow.

Start gathering droppings now for a mushroom bed, it is still a little early for spawning but it takes some time to get the droppings all gathered.

Cauliflower is one of the most delicious of vegetables when produced in a greenhouse, very different from the cauliflower grown out-of-doors. Start sowing now and sow every three or four weeks through the winter for successional crops.

Fruit Trees

THIS is a good time to look over your trees and shrubs of all kinds and remove any dead wood, it is very easy to see dead wood when the foliage is still on the plants. The early fruit should be ripe in the orchard and care should be used that none go to waste.

Raspberries and blackberries should have a good cleaning out, cut out all the old cane which have produced fruit and tie the young vigorous canes in place. Green grapes and crab apples

should now be ready for jelly making and must not be allowed to become too ripe for this purpose.

THIS is the time to get new lawns ready for sowing, prepare your soil well and take advantage of any wet weather by sowing then.

Save your own seed of *Pennisetum Ruppellii*, you can get any quantity now.

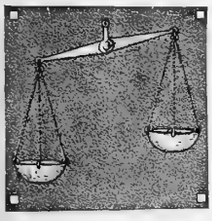
Among the Perennials

Cut down all the dead flowering stalks of the perennials just as soon as you can, they not only spoil the appearance of a garden, but are quite a drag on the root system which is entirely unnecessary.

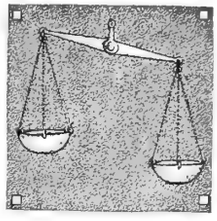
It is still not too late to sow perennials for wintering in a cold-frame, any of the kinds mentioned in last month's GARDEN MAGAZINE can be used. Early this month foxglove and cup-and-saucer campanula can be sown in quantities for wintering in the cold-frames, these plants can be flowered in the frame in spring or planted out very early.

THE month of August is an excellent time for moving any evergreens. Do the work just as the plants start to make their late root growth and success is sure. Later planting of evergreens is not easy, unless it is done in actual winter. Another advantage of doing the work now is that it relieves the pressure on September planting of perennials, and later comes the planting of deciduous trees and shrubs that simply cannot be moved now.

Planting Evergreens



WEIGHED IN THE BALANCE



The Newer Tulips and Daffodils

JOSEPH JACOB WRITES OF THE KINDS "THAT I KNOW AND CAN RECOMMEND AND WHICH I FEEL SURE AMERICAN READERS WILL LIKE TO TRY"

[EDITOR'S NOTE. — *The Rev. Joseph Jacob is recognized as an international authority on the tulip and daffodil and has published two books — one on each bulb. He writes as an amateur for the amateur and we are gratified at being able to present to American readers the appraisals of so eminent an authority at this season when there is yet time for the placing of bulb orders for fall planting. Not by any means the least valuable characteristic of Mr. Jacob's appraisals is the fact that he recognizes actual intrinsic merit quite apart from the questions of novelty and rarity which usually flavor so strongly the garden judgments of European authorities and minimizes their value to the American amateur who looks for intrinsic merit first and last.*]

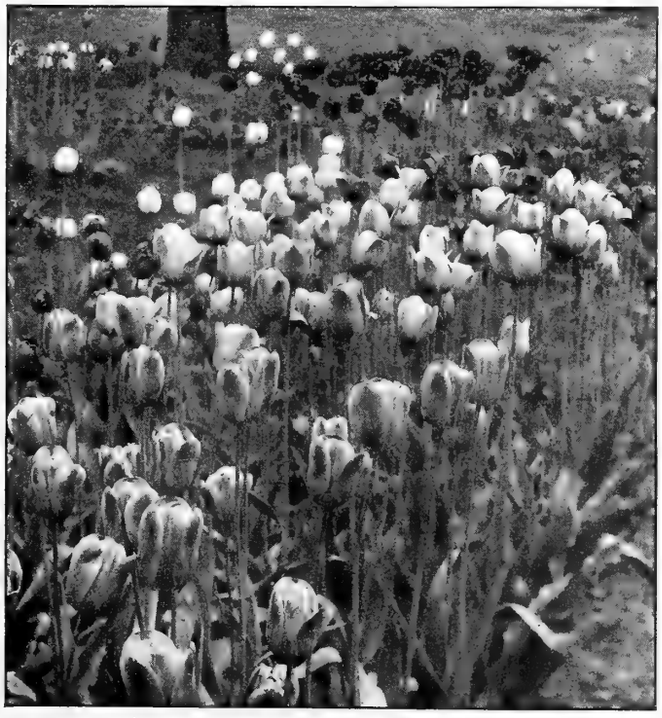
ONE thing about THE GARDEN MAGAZINE that I like very much is the way in which it revives the spirit of the title pages of our old British gardening books. One knows before one starts reading an article exactly what to expect. Hence, the title of this article. I want the readers of this magazine to do a little more than just read; I want them to put an emphasis in two places. Firstly on "I know" and secondly on "like to try." Emphasis makes a lot of difference as the customer found when he asked for his drinks after being shaved. "Oh," said the barber, "you have read my notice wrong. It should go like this. 'Look here! What! *Do you think* I'll shave you for nothing and give you a drink?'"

I write, then, from personal knowledge of what are "good things" and "good growers" in my own country and which I think it will be worth while dwellers in those states, where my letter-writing-ally, Mrs. Francis King, can be taken as guide, philosopher and friend in gardening matters, to try and test for themselves. I am not going to talk about daffodils that cost tens of dollars, or about tulips that are so scarce that for practical purposes they are unobtainable, but rather of certain well tried kinds that I believe are ready to step into the shoes of those good old favorites, such as Mrs. Langtry, Emperor, Empress, Ornatus, Autocrat, John Bain, and such like among the narcissus; and Artus, Keizerskroon, Cottage Maid, Golden Crown, Parisian Yellow, Double La Candeur, Bartigon, Margaret, Donders, and similar old timers among the tulips.

Not that I must be taken to imply that they will all be superseded. Emperor never will, nor will Keizerskroon, until like Zomerschoon (well described by Mrs. King in the May number of THE GARDEN MAGAZINE as that "too costly tulip of unforgettable beauty") they begin to suffer as we all of us must do from "Anno Domini." Maddocks, a celebrated florist of Walworth, London, published a bulb list in 1798. Zomerschoon is there and I have every reason to suppose it to be the identical variety that we have to-day. Even a tulip can't be as vigorous at a hundred and twenty as when it is only ten!

To begin with the daffodils. The last ten years have made an immense difference both in what we show and what we grow. Madame de Graaff has quite ousted the more or less "miffy" or poor doing white trumpets from our gardens. The bicolors, Empress and Horsfieldii are giving place to such fine plants as Duke of Bedford and Glory of Noordwijk. Old Emperor will have serious rivals in all-yellow trumpets in Olympia and, in mild damp climates, the famous King Alfred. Among those that Parkinson, the Adam of daffodil enthusiasts, called the "peerless," but which we label Incomparabilis and Barrii, or large and small cups, we have wonderful new creations in Lady Margaret Boscawen (bicolor incomparabilis); Blackwell (early, long red cup with yellow perianth); Bernardino (large delicate apricot-red cup and ivory perianth); Seagull (the vigorous white and pale yellow centred Barrii); Albatross (its red edged twin — both came from the same seed pod); Firebrand (small vivid red cup and primrose perianth); Red Chief (red cup, white perianth); and Lucifer (red cup, which does not burn, and white perianth).

In the Leedsiis there are a large number of very fine things indeed of the White Queen type coming along. This splendid variety was



Tulips are in constantly increasing demand and yet many excellent sorts may be had at low prices

a great advance in size on the older type, such as Mrs. Langtry, Duchess of Westminster and Minnie Hume, but it is not my idea of a garden plant, being short in the stem. In time we will have Norah Pearson, Diana, Sir Olaf, H. C. Bowles. Honorable Mrs. Francklin, The Fawn and others, but with the exception of Diana these are still expensive. We have, however, White Lady, which is any and everybody's flower if ever there is one. I am inclined to think it will be a second Emperor.

In the poeticus section the number of the new varieties is legion and the task of selection is most difficult. There is a consensus of opinion over here that, like the proverbial dog, every variety "has its day" or year. One is good in 1912, and another good in 1914. The best and most reliable of the more reasonable priced are Cassandra, Homer, Horace (red eye), Virgil (early), and Ben Jonson; and of the more expensive kinds Acme (red eye) and Kingsley (lovely rimmed eye).

An entirely modern type, which we owe to Messrs. R. Van der Schoot & Son of Holland, is the "poetaz" — the result of crossing poeticus ornatus with some of the polyanthus or tazetta varieties. [This type has proven quite hardy in America — Eds.] I consider the introduction of the white trumpet Madame de Graaff, the evolution of the giant Leedsii (such as White Queen) and the coming of the poetaz (Elvira, Aspasia, Jaune à Merveille, Sunset, Irene, etc.) the three great events in the introduction of daffodil novelties in recent times.

Tulips have steadily been gaining popular favor in recent years. The advent of the Darwins about a quarter of a century ago gave tulip culture a great fillip. The introduction of finer varieties and the finding and putting before the public many choice cottage ones fanned the flame. America wants these just as much as Britain. So much so I am told that, to-day, there is a sort of mimic mania taking place among the growers at Haarlem in their eagerness to acquire stocks of all the best. With regard to what are known as "earlies" I believe the demand is not so great as formerly, and I am not surprised, for now that Cottage, Breeder and Darwin tulips are so much used in bedding arrangements, it follows that there is less need for the others.

In one way they might be useful still, and that is in what I term the "duplex" tulip bed. This means that in the place of any ground plant, such as an aubrietia, arabis, or phlox, an early and a late variety is planted alternately. Then the early one, when it has done flowering, is cut off either at the ground level or just above the second large leaf. If this is a low priced one (such as Prince de Ligny, Artus, Prince of Austria, Maas, or Duchess of Parma), the cost need not be very heavy and the two varieties could easily be separated at getting-up time by the long stems of the latter.

Daffodils have a great range of form and some of the newer poeticus and Leedsii kinds (shallow cups) have remarkable colorings, while the trumpet kinds are more solid and substantial

For growing in pots, I think those who wish for new or out of the way flowers might invest in some bulbs of the pure white double Schoonoord — it is as good as any peony — in some Safrano, best described as a pale yellow tea rose; and in Lac van Haarlem, an old but not much known rosy-mauve, rather dwarf growing but a good doer and very distinct. Among the singles, I take it for granted every one grows the lovely orange-red Prince of Austria. It is my ideal tulip and one of the few really sweet ones. This last characteristic it shares with Jenny, which for habit and shape of bloom leaves nothing to be desired. Its color is a beautiful cherry red, quite a shade of its own. Two, called after American Presidents — President Taft and President Cleveland — are good. The first is a striking white with a deep rose edge, which gradually colors the whole, and the second a charming combination of a much paler pink and white. Both are large fine flowers. The only other one in this section that I will mention is the new De Wet [which was so conspicuous at the New York International Flower Show in 1913. — Eds.] It is a sport from Prince of Austria and in everything but color it is a replica of that grand plant. The ground color of the petal is an orange yellow, and there is a fine net work of red veins distributed evenly all over it; the combination giving a bright orange tone to the whole flower. With age the red more and more predominates. It is the best novelty we have had for years.

Breeders are old self colored kinds that as a rule have a more egg shaped and longer looking flower than the square based Darwins. Many of them have yellow bases or bottoms. A fairy tale in connection with this type of flower that I have been told is, that their popularity in the States is based on the belief that the Pilgrim Fathers grew them before the sailing of the *Mayflower*. They very likely did have something of the sort in their gardens, but they would be there not because they were self colored, as we like them, but because they expected them to "break" or become striped. The only tulips that were of much value until the last thirty years were these broken or striped ones. Now the case is reversed, although I hear there are signs that the old fashion may be revived to some extent. Of these breeder selfs none is more refined than Louis XIV; its aristocratic looking combination of deep rich purple and glossy brown is always admired, more especially in bright sunlight. Gondvonk, a fine large tortoise shell comb color and raw sienna, and Golden Bronze, a cadmium brown and deep yellow, are two of the best of the brown-yellows. Then there is Panorama, or as it is sometimes called Fairy, but why this name should be given to a flower that suggests anything but such a being I cannot imagine. It has a massive mahogany red bloom of the size and height of the Darwin Millet. Lastly, I would mention Marie Louise. This is a round flower of a fascinating shade of pale old rose edged with a warm apricot and is very distinct. In some years it "comes rough" — that is, many of the flowers develop an abnormal number of segments and sometimes a petal is distorted,

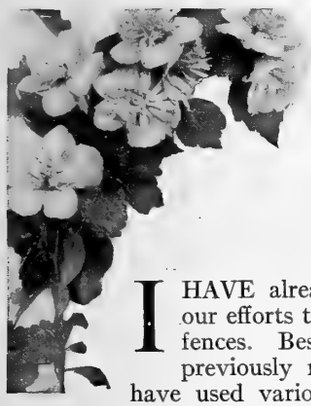
but with all its faults "I love it still" and would be sorry not to have it in my garden. Planted in alternate clumps with a mauve Darwin such as Euterpe, the blending of colors is restful and somewhat uncommon.

To these Darwin varieties I now pass. Their introduction into commerce in 1889 created a profound sensation. I have an early list of Messrs. E. H. Krelage & Son, the introducers, dated 1891. It contains three hundred varieties with prices ranging from twelve cents (6d. in English money) each, to twenty-five and thirty guelders (30 guelders equals about $12.50). It is impossible to say how many kinds have been introduced since then, but they must be numbered by hundreds. Slowly the best are crystallizing out, but the process is by no means complete. It is this, coupled with fashion, which accounts for such a mighty rise as took place in the case of the blue purple The Bishop. Every one wants it. No one has much stock. Up goes the price. The same firm which lists it in their 1914 catalogue at 30 shillings per dozen (say $7.50), offered it last season at 5 shillings ($1.25). It is the *bluest* of the purples and a self.

Viking comes near it, but it is to The Bishop as La Tristesse (rosy heliotrope edged silvery gray) is to Remembrance. That is, it is more of a bicolor on account of the three inner petals being of a paler shade than the interior ones. Let me couple two more, still paler, but of a similar tone, Euterpe and Erguste. These are both very lovely and while my favorite is the more rosy and taller growing Euterpe, very many lean to the bluer gray of the latter. If my garden was bathed in sunshine all May I would go in for some of the real darkies, but I would have to be careful to give them an appropriate setting. If placed against very dark foliage, they do not show; and if they are part of a scheme it will then, I fear, look gappy. The two I would advise are the earlier and rounder flowered Fra Angelica and the later and longer Faust.

Pink shades are very popular. Heretofore, Clara Butt has carried all before her and now that she can be bought at quite a low figure her popularity will not be less. There is nothing quite like the delicious warm pink that we get on well grown flowers. I would again suggest two names — Suzon, a beautiful buff rose with a blush edge, and L'Ingenue, a sort of paler edition of the same. Deep reds and rich dark crimsons are "off," not because they "are not" but because no one seems to notice them. I don't think my fine bed of City of Haarlem evoked a single exclamation of admiration among my visitors this spring! The deep crimson Millet and the rich ruby red Tara (syn: William Goldring) were likewise all passed by.

With the Cottage varieties it is nearly the same. Orange King (splendid rosy orange), Inglescombe Pink (buff rose) and the very new Branching Tulip, Mons. S. Mottet, were three of the exceptions. This last variety is the first of a new type "made in France" by Mons. G. Bony of Clermont-Ferrand. Every plant bears from two to five or six well developed blooms on different lengths of stem. The blooms are white in their boyhood, but with advancing age they become more and more flushed, just as is the case with the well known Picotee. I believe in this type. I think it has a future — the days of a too prim regularity are no more. For a cycle we have become Gothic in spirit. A bed of Mons. S. Mottet exactly expresses the change. Hence my faith.



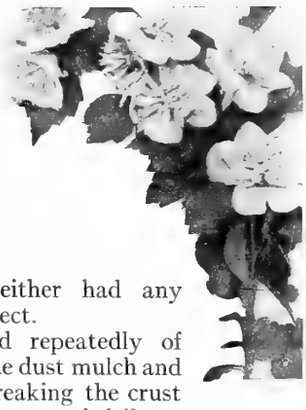
Gardening at No. 1869

PART II.

(*Concluded from June Number*)

Being the Veracious Account of a Successful Battle between the Owner and a Recalcitrant Back Yard, by

Nina R. Allen



I HAVE already alluded to our efforts to hide our ugly fences. Besides the plants previously mentioned, we have used various vines, both annual and hardy. Among the latter was the kudzu vine which, we were told in divers veracious publications, would often grow fifty feet in a season.

It is strange how different is the appearance of a plant in a seed catalogue and outside of one. In a certain catalogue, this one grew skyward with a Jack-and-the-beanstalk-like rapidity, its blossoms rising in innumerable clusters tier on tier. A glowing description below the picture made life seem hardly worth living without a kudzu vine, although the catalogue admitted that it would need to be helped little.

I should think so. I did its twining for it during one entire summer, and in the autumn I discovered that as soon as I stopped, the kudzu vine had wandered from the fence out into the border, and had rooted here and there among my hardy plants, no doubt, with the amiable intention of presenting us with some young kudzu vines. As if we needed any more or wanted them!

It has never produced a blossom, though every spring from twenty to thirty sprouts have shot up from the root, sprawling shiftlessly in every direction, and waiting for somebody to come and do something.

At length it has seen fit to make wood that endured a severe winter, and as we are about to move, I fear that I shall be obliged to abandon the kudzu vine to its fate. Otherwise, I must also take the fence with me.

OUR STRUGGLE WITH THE SOIL

I have left this topic to the last because it was our greatest difficulty, not our least. In its virgin state, our soil is a fine gray sand of the most compact texture, baking in the sun to a bricklike hardness. Dry and powdered, it looks like road dust, and seems to have little more fertility. When we came here, grass refused to grow in places, and where it managed to exist, it was rooted so shallow that the turf could be peeled off almost as easily as the rind from a California orange.

Into this hard, airless ground, we ignorantly dug bonemeal and sheep fertilizer. On account of the bad mechanical condition of the soil, neither had any appreciable effect.

Having read repeatedly of the value of the dust mulch and the need of breaking the crust that forms after a rainfall, we endeavored to stir the ground around our plants, as directed. The result, during our first season, was that the ground broke in such big pieces that the little plants were uprooted with the chunks of earth. In places, the soil set like cement around young seedlings. It was as if they had been put into little plaster jackets, and the life was squeezed out of them. The air could not reach their roots, and they were smothered.

Even now, after the improvement due to the addition of humus and to frequent cultivation, this soil has a way of greening over the surface, though in the sun, unless continually stirred. This appearance, when undisturbed, is followed by moss, indicating the poor drainage of the place, the bad aëration of the ground.

The soil is acid, as I scarcely need to say. One indication of this fact was found in the deformity of certain flowers. Hardy chrysanthemums at first showed in some cases only a partial development of their ray-florets. Perhaps a quarter of the circle of

these that should surround the disk would be missing. Dahlias, too, were affected, but in a lesser degree. Pansies were perhaps the worst sufferers. Their poor little faces were often so distorted that they seemed afflicted with floral paralysis.

For such a condition of the soil, lime is indicated, to drop into medical phraseology: It sweetens, and promotes porosity. We used it liberally. Clover now grows where it was once unknown, the visible sign of improvement.

After liming, the crying need of such a soil as ours is the introduction of humus, or decayed vegetable matter.

Stable manure has the great advantage of providing both the humus which will loosen a compact soil and the food elements needed for the nourishment of the plant; but it also has the disadvantage of introducing weeds and white grubs. And it is not easily got in the city.

We at length had the good fortune to obtain a number of loads from our grocer. At it was furnished late in the fall, the stuff was first used as a winter protection. In the spring, the fine part of this material was dug in where it had lain. There was a great deal of straw in this manure, and as the former had not perceptibly rotted, it was carefully removed, and buried with lime to facilitate its decay. Six months later it was incorporated with the soil where most needed. We valued it not only for its humus, but for its content of potash. I noticed later that the only weed seeds that survived the application of lime were those of clover and several grasses.

But the one thing that proved most efficacious as a means of breaking up this tenacious soil and making it friable, was rotted grass clippings decayed till they were like a rich dark earth, almost as black as soot. We had several loads of this good stuff. The clippings had been piled up by the janitor of an apartment house against the fence of a friend of ours, and the latter objecting to the rotting of his property, we obtained this material for hauling it away. This substance has value, also, as a fertilizer.

All grass clippings should be saved. Sprinkled with woodashes and dug into beds in the fall, there is nothing else so good for asters. The soil will come to resemble the woods earth so much liked by these flowers without the disadvantage of containing slugs and snails.

We also had a compost pit into which went all of the vegetable refuse of the kitchen, even tea and coffee grounds, all faded cut flowers, weeds, dead leaves, etc. These things were sprinkled with lime as each layer was put in, to prevent odor, hasten decay, and add value. This compost proved of great benefit.

After the introduction of humus from these sources, the soil was in a condition to make use of the elements of food provided by commercial fertilizers and they were added as needed.

Coal ashes were also used to some extent as a means of breaking up this stiff soil, but not because they contain either humus or plant food. It was because we had them and because we knew they would have a tendency to separate the particles of earth. Their use resulted in improvement, and the first sign was the appearance of certain shade-loving weeds that had prevously found the ground along our south fence in too bad a condition even for their existence.

It is now believed by many that there is no great difference in soils in the matter of constituents but that the dissimilarity lies in the degree of availability of the food elements to the plants. However this may be, judging by indications our ground was deficient in potash and phosphoric acid, but rich in nitrogen.

Nitrogen is supposed to leach out rapidly, but I am not surprised that it could not get out of our soil. I'd like to see anything get out of it after it had once got in.

We seemed to have a reservoir of that element. Before we attacked the soil from the correct angle, everything ran to leaf. Yet, strange to say, the foliage, though so luxuriant, in some cases showed a tinge of yellow. This peculiarity is usually due to the lack of nitrogen, but it may also be caused by an excess, we are told, or by a deficiency in some other element. Here, I am inclined to think, it was ascribable to the want of sufficient phosphoric acid. This lack was also shown by the failure to bloom well on the part of some plants, and the anaemic pallor of the blossoms of others. Either condition was most pronounced in the case of plants that require a good soil — dahlias, illustrating the first, and bleeding hearts the second. Sheep fertilizer or bonemeal was thereby indicated, and supplied by the garden doctor, with satisfactory results.

The deficiency in potash was shown by the soft stems of a number of plants, but it was particularly evident in gladiolus. These grew very tall and spindling, with leaves that drooped and weak stalks that could not support the weight of the blossoms, though these were less in number than they should have been. Verbenas showed a mass of feeble looking stems and leaves and poor corymbs until wood ashes of the commercial sort were dug in around them, supplying potash. They then stiffened up and not only began to bloom, but rust spots which had begun to appear on their foliage, now vanished.

The wood ashes were also used with the hope of sweetening the soil when the pansies showed deformity. They were of some use in this respect, but, in my opinion, lime is better and more lasting in its effects. But, though the ashes bleached the flowers to some extent, we found them of great benefit to the plants, promoting an upright growth that did one good to see when contrasted with the "lopping" habit they had at first shown. Sheep fertilizer or bone meal, applied later, restored color to the blossoms.

One difficulty is still unconquered and will remain so, I think, unless the yard is underdrained. Plants winter kill badly in this cold, wet soil, with its poor drainage and bad aëration, except when the season is unusually favorable. And many that endure the vicissitudes of winter pass away with root or crown rot during an inauspicious spring.

Yet in spite of our troubles, we have had many flowers.

Most annuals require a lighter soil than ours, but we have grown numerous sorts with various degrees of success. Portulaca, petunias, sweet alyssum, four o'clocks, marigolds, calendulas, zinnias, larkspurs, ageratum, balsams, perillas, Japanese hops, and wild cucumber have been good. Our nicotiana, salvias, ten-week stocks, and violas were fine. Our Shirley poppies were the wonder of the neighbors who could scarcely believe that such fairylike creatures could spring from the soil hereabouts; and we have had creditable asters, free from root lice, though grown in sand.

Certain perennials have found the soil much to their taste after improvement: Golden Glow rudbeckias and hardy sunflowers are but too well pleased, while forget-me-nots of the variety known as Palustris, whose habitat is marshy ground, threaten to become a weed. Hollyhocks, Oriental poppies, and German iris have flourished; larkspurs and columbines have managed to live comfortably; day lilies and funkias, gaillardias, sweet Williams, bleeding hearts, lilies-of-the-valley, moonpenny daisies, primroses, hardy chrysanthemums, Japanese iris, English daisies, gypsophila, and heleniums, have compared very favorably with those in other city yards. With foxgloves, coreopsis, and Canterbury bells, when failure resulted, the trouble that has prevented success has generally been winter killing or crown rot in early spring. The wet soil, even when beds were raised above the level, proved too much for a certain delicacy of constitution possessed by these.

The gardener in such a place must snatch half of his joys from the overcoming of obstacles. And if he be endowed to some degree with "the divine sense of humor that rainbows the tears of the world," so much the better for him. He will then enjoy himself in spite of his almost insuperable difficulties. Yet it must be admitted that it would be as cheap and less trouble to move and garden in a more propitious spot, if a hegira be possible.

I have had hours of such discouragement that I have declared with my Job's comforters, who, of course, have not been lacking, "Nobody can do anything with such soil as this." But I have also had my moments of triumph when success has gone to my head, as it sometimes does in the case of other "artists," and I have thought, "One who can raise flowers here can grow them in the Sahara without irrigation."

I end as I began. It is my private opinion that any one can have a garden anywhere if he wants one badly enough to make the attempt and to persist in spite of obstacles.

BOSTON
1914

The CONVENTION GARDEN

[EDITORS' NOTE. — *The Society of American Florists holds its 30th Annual Convention at Boston, Mass., August 18 to 20. In conjunction there are also stated meetings of the various "special flower" societies devoted to the interest of the Sweet Pea, the Rose, the Carnation, the Gladiolus, etc. These annual Conventions have been accompanied by exhibitions of plants, building materials, sundries, etc., but generally of a "trade" character. Last year, when the Society met at Minneapolis a new feature was introduced in the form of an outdoor exhibition of growing plants set out in the form of a garden. Here the general public was able to see growing displays of many novelties, which displays were maintained throughout the season. This year the city of Boston designated an area of ten acres of land on the Fenway and under the direction of the Park Department as the "Convention Garden." Here the amateur gardener will find, until late fall, many displays of growing plants, including novelties of the season.*]

The "S. A. F."

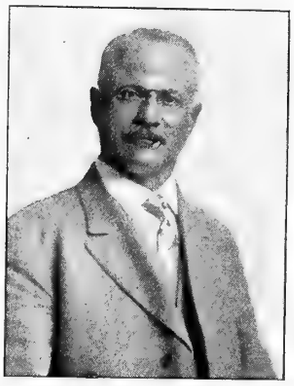
By W. J. STEWART, Ex-Secretary

THE Society of American Florists started its career thirty years ago with a strong incentive and a well-defined purpose. In the earlier period of American horticultural development, the most rapid progress had been made in what we might term the utilitarian field, the study and culture of fruits having already assumed an importance equalling, if not surpassing, that which it had attained in the most highly cultivated portions of the old world.

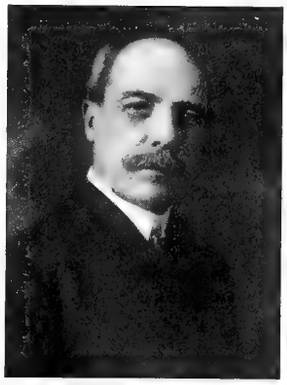
As in the history of all new settlements, attention had been given chiefly to the useful and directly remunerative, rather than to the purely ornamental in garden products.

But it was becoming very evident to thoughtful and far-seeing minds that the time was approaching when the gratification of esthetic taste and the promotion of refined comfort would appeal to the American people with a force and in a manner hitherto almost undreamed of. Already there were signs that the commercial flower grower had begun to chafe under the domination of his affluent and sometimes aggressive brother — the fruit and vegetable grower — in the affairs of the then-existing horticultural bodies. Dissatisfaction with prevalent conditions was rife. In short, the younger brother was fast attaining manly stature and confidence in his own strength, and self-assertion was sure to come sooner or later.

P. Welch, of Boston, Vice-President, Society of American Florists



Theodore Wirth, of Minneapolis, President, Soc. of American Florists



J. K. M. L. Farquhar, of Boston, Chairman, Publicity Committee

Thus the Society of American Florists was, in its very inception, prepared for serious business. The progressive men of the young and virile flower-growing industry, aroused as they espied the dawning of a new era in American horticulture, and thrilled with its inspiration, got together, filled with the determination to really "do something."

No more alluring field for action under wise, experienced and zealous leadership was ever presented. Its needs and its possibilities were self-evident; the direction of its coming evolution was unmistakable. If American horticulture was to reach its full development, the work must begin at the foundation, with the workers. If the great community was to be educated to a proper appreciation and correct knowledge of practical horticulture, the real start must be in the training of the practical men to whom the world could look for reliable example and instruction. The pioneers of the Society of American Florists seem to have realized that, before opening their house to company, they must first set their house in order.

The early hsitory of the organization is all aglow with the ardor of altruistic purpose. Steadfastly and consistently have the original ideals been striven for. Steadily has the task of fitting the workers for better work and for greater usefulness gone on. The facts of science have been applied to practical use; the gospel of beauty has been preached as never before, and the ideality of art has touched and quickened the oldest occupation known to mankind into a loftier reality.

The Society of American Florists and Ornamental Horticulturists, as its title is given under the unique National charter conferred by Congress, has in a measure remade the floral industry of this country, and under its inspiration there have grown up the many useful special societies which have rendered splendid service.

J. H. Dillon, Chairman, Boston Park Commission

John Young, of New York, Secretary, Society of American Florists

Jas. B. Shea, Deputy Commissioner of Parks, Boston

The old Chase garden at Salem

In the Weld garden at Dedham

At Lancaster, on the estate of Mr. Bayard Thayer

THE GARDEN INTEREST

A TABLOID SUGGESTION FOR THE TION CITY—WHAT IS TO BE SEEN

BOSTON and its immediate vicinity has been the cradle of much that has dominated American horticulture. Hereabouts have been the beginnings of many lines of great general interest. At Cambridge, one of America's foremost horticulturists, C. M. Hovey, had his gardens. Wilder, who rendered such service to American pomology, lived at Dorchester, and part of the old garden still remains. The site of Parkman's garden, now incorporated into the park system along Jamaica Way, is famous for the introduction of the Parkman crab tree among other things; and the Clapp garden, another fine old place, is also at Dorchester. The original ginkgo tree, transplanted from the old Gardiner Greene estate on Beacon Hill in 1835, stands today on Holmes Walk, Boston Common, with other venerable trees. The Public Garden adjoining is a splendid example of the possibilities in reclaiming waste lands, for all this territory now converted into fine lawns and famous for fancy summer bedding, is reclaimed from the marshes of Charles River. Reclaimed land, extending all the way along Muddy Brook, forms the great parkway of Boston running out to Jamaica Plain. Part of this is devoted this year to the Convention Garden where the Society of American Florists is exhibiting in connection with the thirtieth annual meeting, and wherein are trade exhibits of modern varieties of plants displayed for comparison and demonstration.

Extending along the Back Bay Fenway itself the plantings are instructive as showing how skilfully the art of man can reproduce the semblance of Nature's own handiwork. This is the work of the late Mr. J. A. Pettigrew, former park superintendent.

The Fenway leads us right into the Arnold Arboretum, that unique collection of hardy trees and shrubs representing everything that can be grown in the climate of New England. The Arboretum is open to the public every day from sunrise to sunset. Fifty years old, the results of this work are now being brought very practically before the horticultural public partly by a series of Popular Bulletins recently established.

Continuing beyond the Arboretum, the visitor will pass the Bussey Institute and connect with the most important area of the Metropolitan Park System, Franklin Park.

Brookline, long famed for its gardens, adjoins the Arnold Arboretum. Here, in the Weld garden of Mr. Larz Anderson, is one of the most famed specimens of formal Italian gardening in this country, and instructive horticulturally because of the careful system of continuous succession of bloom that is maintained throughout the season.

Mr. Larz Anderson's Italian garden, wherein a continuous succession of bloom is maintained

The adjoining Faulkner Farm, also possesses an Italian garden, but this estate is now under process of remodelling. Near by are the gardens of Mrs. John L. Gardiner, William Whitman, and the newly planted grounds of Mrs. Hannah P. Weld. Holm Lea, the residence of Professor C. S. Sargent, director of the Arnold Arboretum, is an interesting example of the English park style of landscape art. It also contains a representative collection of peonies, iris, lilacs, cratægus, rhododendrons, etc.

The Botanic Garden of Harvard University, located at Cambridge, has historic association in connection with the late Professor Asa Gray, who did most of his botanical work at this place. There are extensive collections of herbaceous plants and a rock garden. In all, about 9,000 species of plants are cultivated. The garden will be open to the public from 8 A.M. to 5 P.M., daily.

In the Agassiz Museum of Comparative Zoölogy, also associated with Harvard University, is a representative collection of glass models of flowers, which excites a good deal of interest.

Cambridge, itself, is noted for the residences of several famous people, including Longfellow, James Russell Lowell, etc. Part of the grounds of the last named house are now included in the park system. On the road to Cambridge, the visitor may see

Holm Lea, noted for its open park-like effects

At Wellesley is Mr. Hunnewell's remarkable topiary work

"The House of Seven Gables" at Salem

IN AND ABOUT BOSTON

CRITICAL VISITOR TO THE CONVEN- AND THE LESSON TO BE LEARNED

in passing the historical Washington elm.

The two large cemeteries of Boston are not without their interest at this time. On the west is Mt. Auburn, which was closely concerned with the beginnings of the Massachusetts Horticultural Society. Indeed, the two organizations were one at the start, and it is the cemetery that made possible the great influence that this Society has exercised. To the south of Boston is Forest Hills Cemetery, of importance as being the first example of the lawn, or park, cemetery in this country.

The best example of topiary work to be seen in America is on the Hunnewell Estate at Wellesley. Apart from this, however, the collections of fine evergreens and rhododendrons, which give the place its character, have a fame all their own. The work stands as an instructive example of what may be accomplished in what is commonly regarded as an impossible waste — the tract was so considered when the work was begun more than three quarters of a century ago.

Owing to the naturally favorable conditions, the entire shore line, both up and down the coast from Boston, has been developed into a series of finely gardened estates, more particularly along the North Shore, such as at Manchester. Some of the more noteworthy are the gardens of Mrs. Evans, Mr. H. C. Frick, W. S. and J. T. Spaulding, Mrs. H. L. Higginson (famous for its seaside rockeries), Judge W. H. Moore, Mrs. E. C. Swift; and at Marblehead Neck, that of Chas. W. Parker.

The historical old-time gardens of Salem were unfortunately, to a large extent, injured by the recent calamitous fire in that town. Here, however, was Governor Endicott's estate, interesting on account of its old-time associations; and nearby is the new estate in Topsfield of Mr. T. Emerson Proctor, a modern country estate and arboretum, rock garden, etc.

Rock gardening may also be seen at the Ipswich garden of Mr. George E. Barnard, adjoining Topsfield. The best example of wild gardening in the neighborhood is at Dedham, in the gardens of General Stephen M. Weld. Other neighboring regions where fine gardens exist are in Lancaster, Whitinsville and like nearby towns.

One of the many old-time gardens around Boston — the Whipple estate at Salem

Commercial establishments, such as supply the wants of other large cities, will naturally be found in the environs of Boston, but there are also one or two places which have a particular appeal to the general plant lover. From the Woods Hole establishment of M. H. Walsh came the beginnings of that great race of rambler roses which have become so dominant a characteristic of American gardens. At Natick, near Wellesley, are the Waban Conservatories, where were originated the Hadley, Wellesley, and Mrs. Charles Russell roses. This establishment was also the first one to adopt the modern very large greenhouse for commercial plant growing. The development of the sweet pea as a cut flower under glass has been very largely due to the work of Mr. William Sim, at Cliftondale; and in the establishment of Mr. Thomas Roland, at Nahant, may be found a large collection of acacias and other hard-wooded plants which seem to suggest a revival of interest in this formerly very popular class of material.

And as looking into the future possibilities of plants that have come to us from China, mention may be made of the nurseries of R. & J. Farquhar at Dedham and Roslindale, where many of the introductions of Mr. E. H. Wilson are being propagated extensively. The modern development of the florist's carnation is also associated with this region, as it was Mr. Peter Fisher of Ellis who raised the now famous Mrs. T. W. Lawson and others of that type that followed.

An illustration of the modern great developments in commercial horticulture may be seen in Tracy's gladiolus farm at Wenham. The environs of Boston are studded with large establishments devoted to the commercial production of plants. And not the least important posession of Boston is the extensive horticultural library in the home of the Mass. Horticultural Society in Horticultural Hall.

BOSTON
1914

The CONVENTION GARDEN

GUIDE TO THE EXHIBITS

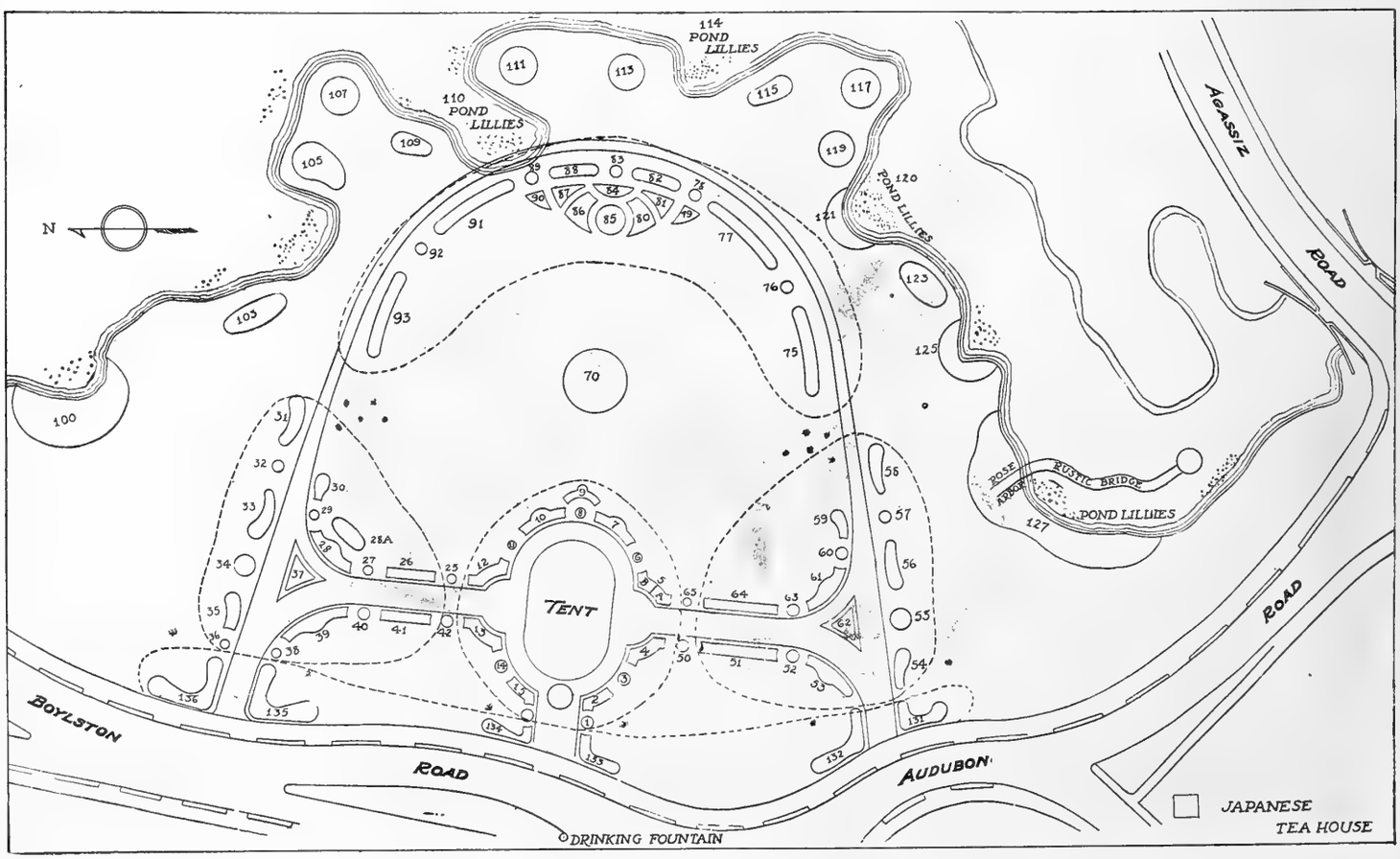
THE accompanying map, corrected up to July 13th, shows the location of the various exhibits up to that date.

The circle contingent to the space for the tent is to be planted by the Park and Recreation Department, to represent the seal of the City of Boston. Also, in the centre, a coat of arms of the United States, elaborately worked out showing the red and white stripes and blue field with thirteen stars representing the thirteen original states. This is flanked on both sides by a leaf representing the emblem of the Society of American Florists.

A rose covered arbor on the planting area leading on to a rustic bridge which curves in and out, ends at a Japanese tea house. The bay between the bridge and shore is to be planted with water lilies and other aquatic plants, all to have a Japanese effect.

All the beds that have been listed have been constructed. Beds which have no numbers had not been engaged at the time of going to press, and if not taken otherwise, will be planted by the Park and Recreation Department of the City of Boston. Some beds are planted by two exhibitors and are listed, for example, as 5a and 5b.

Bidwell & Fobes, 5a
Boddington, Arthur T., Canna, gladiolus, montbrietia, 32, 35, 53, 75
Carter's Tested Seeds, Inc., Clock dial in grass with bedding plants 70
Childs, John Lewis, Gladiolus, 61
Comley, Henry R., Cosmos, white chrysanthemum, 3
Conard & Jones Co., Cannas, 13, 14, 38, 39, 40, 41, 42
Cowee, Arthur, Gladiolus Peace, 56a
Dreer, Inc., Henry A., Nymphæas, 110
Eastern Nurseries, 31, 58
Edgar Co., William W., Heliotrope and lilies, 4
Farquhar, R. & J. Co., 37, 62, 127
Fletcher Co., F. W., New hyacinth—flowered Antirrhinum, 59
Goddard, S. J., Begonia Gloire de Chatelaine, 63
Henderson & Co., Peter, Geranium Genl. Funston, 57
Hewes & Co., A. H., vases and pottery scattered about garden
Knight & Struck Buddleya and Heatherhome cosmos, 6, 11
Magnuson, H., Salvia, 56b
Manda, W. A., 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
Mt. Desert Nurseries, Phlox, astilbe, spirea, etc., 7, 8, 9, 10
Palmer, F. E., Petunia Veilchenblau and dwarf Marigold, 91
Park and Recreation Department, 2, 15
Pierson, A. N., Co., Baby rambler roses, perennials, geraniums, foliage plants, cannas, 26, 27, 28, 28a, 29, 30
Sim, William, Snapdragon Pride of Cliftondale, 50
Steward, E. E., 5b
Tracy, B. Hammond, Gladiolus in variety, 12, 25
Tricker, William, Nymphæas and water plants, 114, 115, 119, 120
Vaughan's Seed Store, 60
Vick's Sons, James, Gladiolus Rochester White, 55
Vincent, Jr., & Sons Co., R., Geraniums, 34
Being used as a nursery bed for overflow stock, 54
Not built, being under large trees, 1, 16



Fruiting Strawberries in Winter—By E. I. F., Massachusetts

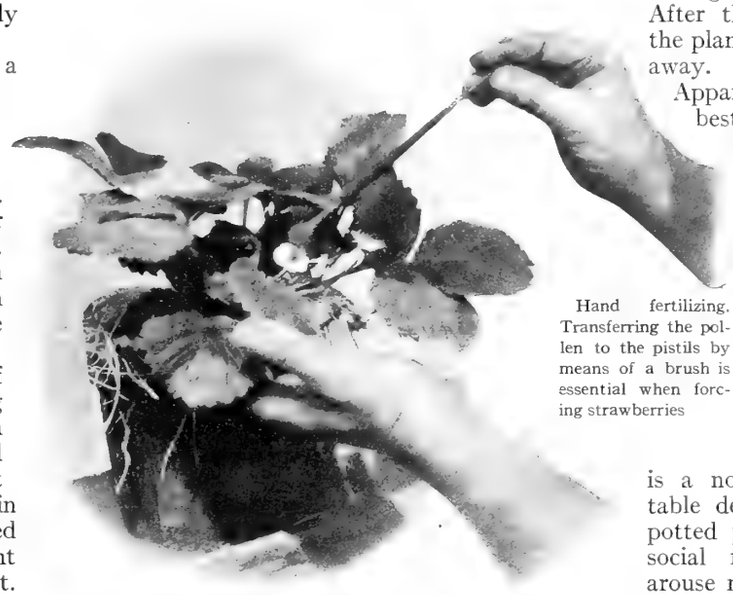
NOT A DIFFICULT PROCEDURE BUT REQUIRING ATTENTION TO DETAILS—START NEW PLANTS NOW AND BEAT THE OUTDOOR CROP

THE conventional plan is to layer the first runners made in July in 3-inch pots plunged near the parent plants. In two weeks they are repotted into 4-inch pots and set in a coldframe. When fall comes the plants are shifted to 5-inch and again to 6-inch pots. In actual practice and dealing with several hundred plants, just as good results have been obtained when strong runners have been dug up late in July or early in August and set directly into 6-inch pots.

It is convenient to set the pots in a coldframe, for they can be cared for to good advantage there. Good garden soil, preferably from new land, may be used in the pots and commercial fertilizer applied if it seems needed. Very much depends upon the proper watering of the plants until winter comes. Sometimes it is necessary to make an application of water twice a day; enough must be given so that it will penetrate to the roots.

When cold weather comes, breakage of the pots may be avoided by surrounding them with coal ashes and putting a sash on the frame, but the plants are permitted to freeze. Late in December the first of the plants to be forced may be taken in and thawed. The season is easily extended by starting the plants in batches. A night temperature of 40 to 45 is about right. When the buds come, the temperature is best run up to 65 or 75 at night, but good ventilation is necessary As soon as the plants are brought into the house, it is wise to spray them with copper sulphate, one ounce to eight gallons of water, to kill fungus spores.

Some growers keep their plants in pots through the forcing season. Others shift them to boxes with an opening in the front, into which the plant is set. The latter plan is excellent for a lean-to house, as the boxes may be placed on shelves arranged in tiers against the rear wall, the floor space being left clear for other purposes. With this plan, too, the berries are protected from the dirt and watering is made an easy matter. When pots are used, and this is the more common method, they are placed on tables or raised benches and excelsior, cork chips or a piece of wire screening thrust under the berries to keep them from becoming soiled.



Hand fertilizing. Transferring the pollen to the pistils by means of a brush is essential when forcing strawberries

Hand fertilizing of the flowers is necessary. Some growers find it satisfactory to shake the plants sufficiently to scatter the pollen, but as a rule a camel's hair brush is made use of, the pollen being gathered from the stamens and transferred to the pistils. Sometimes any extra pollen is carried along on a wooden paddle. Pollenizing the blossoms must be done every sunny morning. It is very necessary that every pistil in a flower be reached by the pollen, or the berries will grow one-sided. After the fruit has begun to set, the application of weak manure water two or three times a week will be an advantage. Commercial growers spend little time, as a rule, in thinning the fruit, but it will pay the amateur to remove the smallest and poorest from any plant that has set more than eight or nine berries.

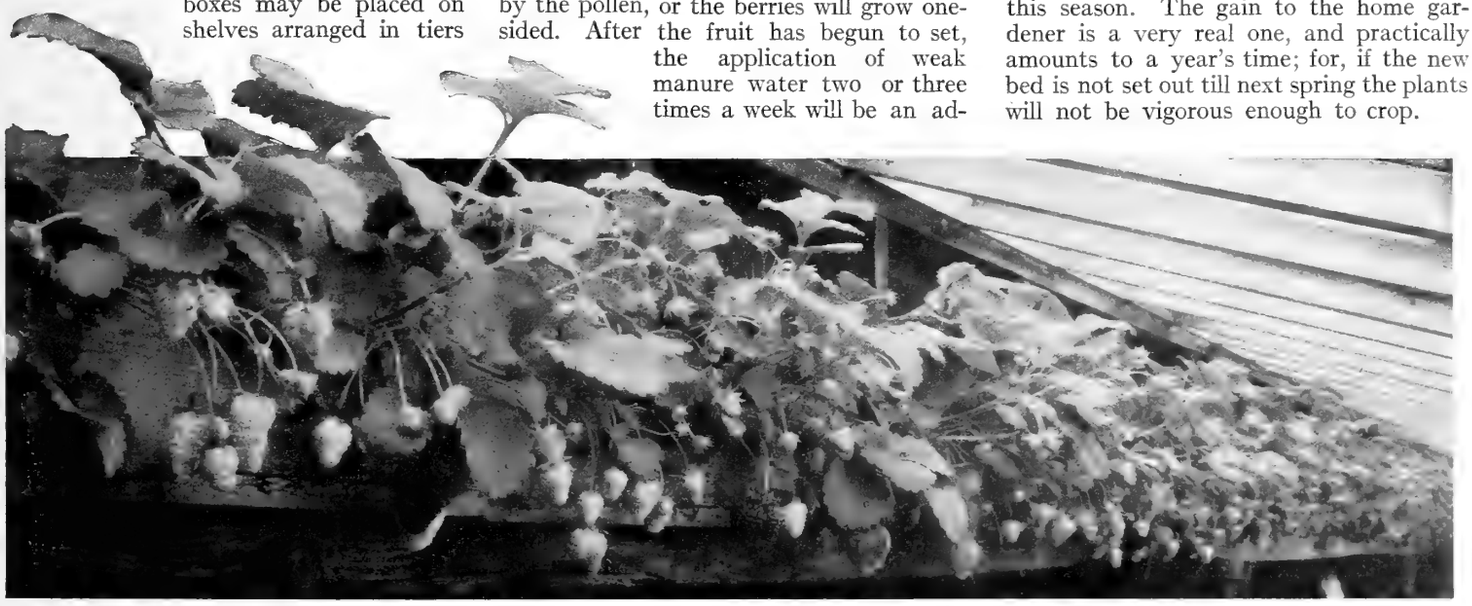
In about a month from the time the fruit sets, the berries may be expected to begin ripening and the plants will bear from two to four weeks. With several relays of plants, it is possible to have berries through much of March and April. After they have ceased bearing, the plants may as well be thrown away.

Apparently the Marshall is the best strawberry for greenhouse forcing. It yields high grade fruit and stands forcing well. Commercial growers like it because it is a popular variety everywhere. Also, it is perfect flowering. Another and somewhat later berry which gives good results is the Sharpless.

A strawberry plant covered with ripe berries is a novel and highly attractive table decoration. Two or three potted plants on the table at a social function are certain to arouse much admiration.

PLANTING A NEW BED OUTDOORS

During August is also the approved time for the making of a new bed in the garden. Dealers offer "pot plants" at this time which may be set out at once and if given ordinary care will take hold and become well established before cold weather sets in. By this method the plant will be in a position to start growing vigorously as soon as the season opens and the result is an actual crop of fruit next June from the bed made this season. The gain to the home gardener is a very real one, and practically amounts to a year's time; for, if the new bed is not set out till next spring the plants will not be vigorous enough to crop.



The plants for fruiting may be grown in pots or benches, or they may be set into boxes as shown here. This facilitates watering, etc.

Abies brachyphylla is one of the most promising trees for our gardens

Hardy form of the cedar of Lebanon growing from seed in the Arboretum

Torreya nucifera is the latest of all conifers to leaf out, making its growth in June

Plain Facts About Some Common Evergreen Trees

From the Arnold Arboretum — Boston, Mass.

[EDITORS' NOTE: *The Director of the Arnold Arboretum, Prof. C. S. Sargent, issues from time to time the "Bulletin of Popular Information" in which the lessons learned by careful study and observations are made generally available. The matter in these Bulletins is of unusual merit, and we herewith present to the readers of* THE GARDEN MAGAZINE *certain facts in regard to coniferous evergreens (extracted from a recent issue) which have a timely and practical interest at this season when the planting of evergreens may be undertaken to great advantage. Some of the information given below may be startling to some of our readers, who, however, may rest assured that there can be no more authoritative decisions than those that come from that institution where is to be found growing every tree and shrub that can be grown in that part of the country.*]

EASTERN North America is not a good region for these trees. Many of them cannot long bear our hot dry summers, cold winters, and the cold nights, the hot sun and the winds of a New England March. For ornamental planting here better and more permanent results are obtained by the use of deciduous leaved trees and shrubs than by the general planting of conifers and broad-leaved evergreens. Two of the handsomest of coniferous trees, however, are native to this part of the country, the white pine (*Pinus strobus*) and the hemlock (*Tsuga Canadensis*), and where these two trees thrive the lover of evergreen trees need not lack material for his plantations.

It can be said generally that the conifers of northeastern North America, the Rocky Mountains, northern, central and southeastern Europe, Siberia, northern China and northern Japan, are hardy in this climate, and that those of the southern United States, Mexico, Central America and the countries south of the equator, the Himalayas and southeastern Asia are not hardy; that only a few of the species of western North America can be safely planted in this climate, and that so far as it is possible to judge by our experience here many of the pines, spruces, firs, and larches which cover the mountain slopes of the Chinese-Tibetan frontier promise to be hardy in New England.

In the Arboretum there is probably the largest collection of species and varieties of conifers which can be found in eastern North America, although in a few collections like that at Wellesley in this state, and in the Hoopes Pinetum at West Chester, Pa., there are larger specimens of several species. Many exotic species are hardy and grow rapidly and vigorously here, but only time can tell whether any of these trees will ever reach here a large size and become permanently valuable as ornamental or timber trees.

The most interesting thing, perhaps, which the Arboretum has taught about conifers is the fact that when a species is widely distributed over regions of different climates plants raised from the seeds of the trees growing in the coldest parts of the area of distribution of the species are the hardiest. For example, the Douglas spruce (*Pseudotsuga taxifolia*) from the shores of Puget Sound, where this tree grows to its largest size, is not hardy here, but the same tree from the high mountains of Colorado is one of the hardiest and most promising of the exotic conifers which have been planted in New England. *Abies grandis* from the cold Cœur d'Alêne Mountains of Idaho has been growing for years in the Arboretum, while the same tree from the northwest coast-region cannot be kept alive here. The same is true of the so-called red cedar or giant arborvitæ (*Thuya plicata*) of the northwest. Plants from Idaho are perfectly hardy in the Arboretum and now promise to grow to a good size, while those from the coast are tender.

The experience of the Arboretum with the cedar of Lebanon is interesting, for this is a famous tree which it is desirable to establish wher-

The Japanese yew (*Taxus cuspidata*) is quite hardy and keeps good color in winter

ever it can be induced to grow. The cedar of Lebanon of European nurseries is raised from seeds produced in Europe by the descendants of the trees brought originally from the Lebanon in Syria. Occasionally one of these trees can be seen in the neighborhood of New York and Philadelphia, but it is not hardy in New England. The cedar of Lebanon also grows on the Anti-Taurus in Asia Minor, a much colder and more northern region than the Lebanon, and in 1901 the Arboretum had seeds collected from the trees in this northern station, and these were sown in the spring of 1902. None of the plants raised from this seed, although planted in exposed situations, has ever suffered, and some of them are now from fifteen to eighteen feet high. This experiment may have important results, but a century at least will be needed to show its real success or failure. [A small specimen of this form is now growing in the Country Life Press gardens, planted out last fall. Ed.]

Of exotic conifers usually planted in this country it is found that the life here of the Scotch pine (*Pinus sylvestris*) is usually not more than thirty or forty years. The tree grows very rapidly here, it is perfectly hardy, and, beginning to produce seeds when only a few years old, self-sown seedlings often appear in considerable quantities. The so-called Norway spruce (*Picea Abies* or *excelsa*) is another hardy, fast growing European tree which in this climate generally begins to die at the top when forty or fifty years old and is not a success here. Experiments are being made in the Arboretum with seeds of these trees collected from wild trees in Norway and Sweden in the hope that plants raised from these seeds will be more permanent here than European nursery stock which has usually been planted in this country.

The Colorado blue spruce, so-called (*Picea pungens*), promises to be a disappointment. This tree grows naturally near the banks of streams in Colorado, where it is not very common, and never forms forests or large groves; and at the end of a few years it becomes thin and scrawny, with a few short branches found only near the top of the tree. Plants up to twenty or thirty years of age in Colorado and in cultivation are symmetrical, compact, and very handsome. No conifer of recent introduction has been raised in such large quantities by nurserymen here and in Europe, and few ornamental trees have been more generally planted in the last twenty years. This must be considered a misfortune, for judging by old trees in Colorado and by the oldest trees in cultivation, this spruce cannot be for any length of time a valuable addition to our plantations. It was discovered by Dr. Parry in 1862, and one of the trees raised from seeds which he sent at that time to Asa Gray is growing on the southern slope of Bussey Hill in the Arboretum. This specimen very well shows what this tree looks like at fifty years of age. [See illustration herewith. Eds.]

The other Colorado spruce, *Picea Engelmannii*, although it grows more slowly, promises to be a more permanently valuable ornamental tree than *Picea pungens;* certainly as it grows in Colorado, where it once formed great forests, at high altitudes, it is one of the most beautiful of all spruces. The trees in the Arboretum were raised here from seeds collected in Colorado in 1879 and are believed to be the finest specimens in cultivation. They are narrow, compact, symmetrical pyramids, and until a year or two ago were furnished with branches to the ground; now they are beginning to lose their lower branches and therefore are losing some of their beauty as specimen trees.

It is found here that the northern white spruce (*Picea Canadensis*) grows rapidly and is very handsome for about thirty years, and then begins to become thin and unsightly, probably because our climate is too warm for this cold country tree. It is found here, too, that the red spruce (*Picea rubra*), the great timber-producing spruce tree of the northeastern United States, is rather difficult to establish and grows more slowly than any other conifer in the collection, and that the two balsam firs of the eastern states (*Abies balsamea* and *A. Fraseri*) are in cultivation short-lived and are of no value as ornamental trees; and that this is true, too, of one of the Rocky Mountain Firs, *Abies lasiocarpa*, and of the Siberian *Abies Sibirica*.

Colorado blue spruce fifty years old growing on Bussey Hill

Of native conifers in the collection, which now after a trial of from twenty to thirty years promise to be most valuable in this climate, the Rocky Mountain form of *Abies concolor* is the most beautiful at thirty years of age of all the firs which can be grown here. *Abies brachyphylla*, from Japan, with leaves dark green above and silvery white below; *Picea Omorika*, from the Balkans, a narrow pyramidal tree which seems to grow as well in western Europe as it does in New England, are promising trees. *Abies Cilicica*, from Asia Minor; *Pinus parviflora*, from Japan; and *P. Koraiensis*, from Siberia, Manchuria, and Korea, a valuable timber tree in its native country, are also promising. *Pinus monticola* from western America, the western representative of our eastern white pine, is perfectly hardy here, but as an ornamental tree is in no way superior to the eastern species.

Tsuga Caroliniana from the Blue Ridge of North and South Carolina, although smaller is a more graceful and beautiful tree than our northern hemlock. First raised from seeds in the Arboretum in 1881, it gives every promise of being one of the most desirable ornamental conifers which can be grown in this climate.

The collection of the forms of the native arborvitæ (*Thuya occidentalis*) in the Arboretum is a large one and is now in excellent condition, and well worth a visit by any one interested in the seminal varieties some trees are capable of producing. This tendency to variation, appears, too, in the Japanese retinisporas (*Chamæcyparis obtusa* and *pisifera*) which are planted next to the arborvitæs.

Although yews are not technically conifers, it may be said that the Japanese *Taxus cuspidata* and its variety *brevifolia* have come through another winter entirely uninjured, and that there is no reason for modifying the statement already made in these bulletins, that these are the most valuable plants which Japan has contributed to New England gardens, in which the Japanese yew seems destined to become our best hedge plant. A low form of *Taxus baccata* (var. *repandens*) has proved very hardy in the Arboretum, and for this climate appears to be the most desirable form of the European yew.

Of trees related to the yews the hardiest here, with the exception of the well-known gingko tree, is the Japanese Torreya, *T. nucifera*. This, in Japan, is a large tree with a tall trunk and a dense head of dark green foliage.

Water Lilies Without Lakes or Pools — By L. J. Doogue, Massachusetts

MAKE YOUR SELECTIONS OF KINDS NOW AND PLAN TO HAVE WATER LILIES IN YOUR GARDEN NEXT YEAR — A FEW IDEAS FOR THE CITY DWELLER OR ANYWHERE WHERE OPEN WATER IS NOT POSSIBLE

LACKING the room for a large lake the next best thing is to make a miniature lake.

If you cannot grow dozens of lilies and other water plants grow a few or only one. It is merely a question of fitting things.

Of course, some poetic souls may suffer a rude shock at the idea for they can only enjoy water lilies when seen resting on the shimmering waters of a lake; but most of us are so practically situated that our poetic sense is partially suppressed and the little that is left cries out for water lilies in the backyard. The half barrel is the solution.

Barrels sawed in halves make practical lakes for small gardens

Take one, two, or as many barrels as your space will allow and cut them in halves. Burn out the insides, after which fill with well rotted manure and loam with a liberal mixture of charcoal and sand. Sink in the ground and leave three inches between the loam and top of the tub which space is to be filled with water. A tub of bulrush (*Scirpus lacustris*), and its variegated form (var. *zebrina*) with its beautifully marked leaves will do wonderfully well in a tub, growing four feet high and making a thick graceful bushy plant. The beautiful lotus (Nelumbium) is suitable for tubs also, and while they show to best effect when in masses in a pond, individual specimens may be successfully grown in such small spaces as we are talking of.

A bed of sphagnum moss is a good growing medium for water lilies

A tub tucked away in a sunny corner and filled with the water hyacinth (Eichhornia) will be a feast for the eyes. This is the same old rogue of a plant that fills rivers down South and cuts up unpleasant capers generally, but confined in a tub it is wonderfully decorative. A combination of tubs with lily plants in the centre flanked by other tubs filled with umbrella grass (Cyperus) and eulalia makes a charming group.

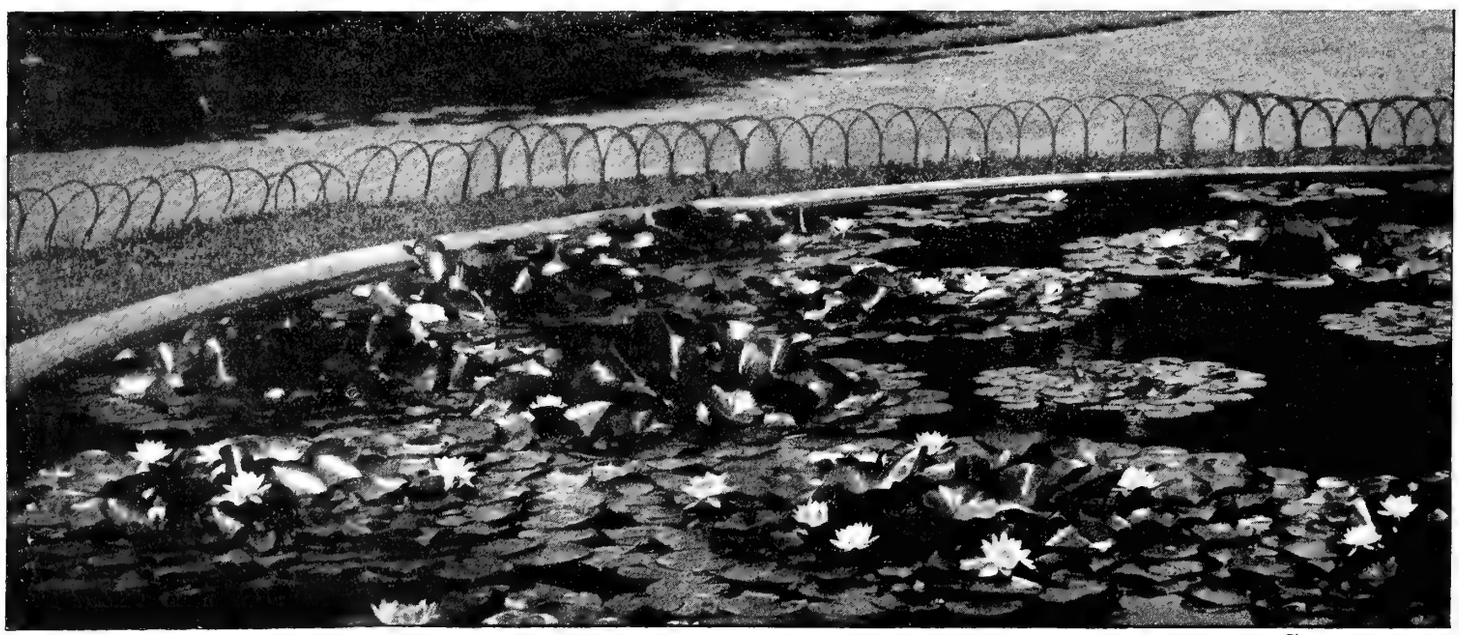
There is simply no mystery about growing water lilies as suggested. Given the soil and means to hold water it is merely a matter of choosing plants to put in the soil. One thing however, is essential — put the tubs in a sunny place.

Water lilies grow as well under this treatment as when in a lake. Get the tubs ready in the spring and set out the plants about June. Keep them covered with water.

Drainage material is necessary in a tub to be filled with water lilies

Don't crowd the tubs. One plant in a tub is much better than five or six.

What kinds to grow: almost any that are not strictly tropical, but especially the hardy marliac and Laydeckeri varieties as well as our native pond lily or the Chinese pygmy. Now is the time of year to see water lilies in flower and make your selection for next year.



All the water lilies in the pool are planted in tubs which are then placed on the floor of the pool

August Opportunities in Plant Raising — By Jas. T. Scott, New York

LITTLE APPRECIATED CHANCES FOR THE AMATEUR TO ACCOMPLISH BIG WORK THIS MONTH IN ROOTING CUTTINGS OF EVERGREENS, SHRUBS, AND INCREASING ALL KINDS OF PERENNIALS BY LITTLE EFFORT

SUMMER propagation of evergreens, flowering shrubs, and many perennials, offers a large field of interest for the progressive amateur, and there is an added charm about plants that we have actually raised ourselves.

The rooting of cuttings is really not at all difficult provided only that a few certain points are kept well in mind.

ESSENTIAL CONDITIONS

It takes green cuttings of half ripened wood from four to eight weeks, according to the kind, to make roots. During the time that the cut is callusing (healing) the atmospheric conditions must be such as will cause as little wasting as possible in the tissues of the cutting. The wood and leaves must be kept as fresh and plump as possible until roots are formed.

A branch or twig cut from a green growing bush and left exposed to the sun, or even stuck in the earth, yet left exposed to the sun and wilting atmosphere will soon dry up and wither; the same piece, if cut and left exposed in damp rainy weather, will retain its freshness as long as the weather remains cool and moist. If the weather would continue thus for the length of time that it takes such a subject to heal it would be a simple matter to raise plants by the million.

Such weather conditions, however, do not prevail continuously, so it becomes necessary to create such a condition artificially, and this can be accomplished by means of frames.

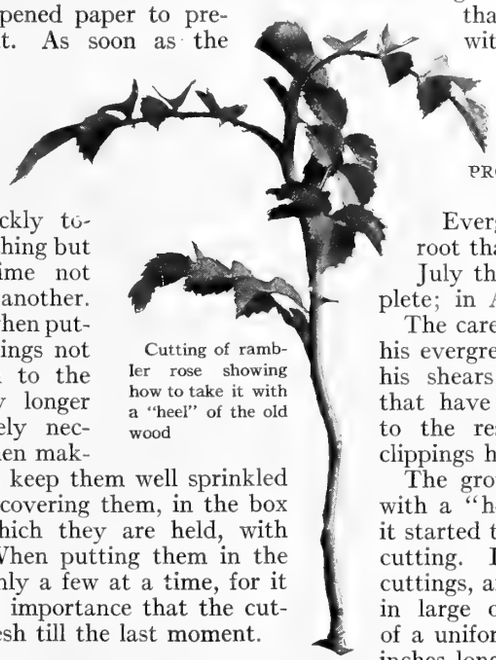
Nurserymen usually have a greenhouse which they shade heavily, but many use frames and sash, though they require more attention than a greenhouse.

FRAMES FOR CUTTINGS

Turn the ordinary garden frame so that the slope of the glass will face to the north, instead of to the south. Ordinarily it is faced to the south to catch the full rays of the sun, and create heat; but for our present purposes we need to keep the frame as cool as possible. If a place can be found at the north side of a wall, so much the better, as less shading will be required.

A very gentle bottom heat will induce quicker results. About two weeks prior to putting in cuttings, fill the frames with 12 to 15 inches of fresh stable manure, tramping it down firmly. Give it a thorough soaking of water and put on the sash. The resulting fermentation will generate heat, and as soon as its virulence is spent, tramp the manure again. The mass will shrink considerably. On the top of this then spread from 4 to 6 inches of clean sand. Now put on the sash and leave the frame alone for a few days, testing the heat subsequently by putting your hand into the sand. When the heat has practically subsided is the proper time to put in the cuttings.

Before planting firm the sand well with a brick or the back of a spade and get a level surface. Then with a straight-edged piece of wood the length of the frame, laid flat on the top of the sand, as a ruler so to speak, mark a small furrow by drawing a small pointed stick along the straight edge. Make this furrow two to three inches deep. After inserting one line of cuttings make them thoroughly firm before making the next line, and when several lines are in cover with dampened paper to prevent drying out. As soon as the frame is full, give a good watering, and put the sash on tight.



Cutting of rambler rose showing how to take it with a "heel" of the old wood

Cuttings may be set quite thickly together even touching but at the same time not crowding one another. And remember when putting in the cuttings not to expose them to the drying sun any longer than is absolutely necessary. Also when making the cuttings keep them well sprinkled with water and covering them, in the box or basket in which they are held, with damp paper. When putting them in the sand take out only a few at a time, for it is of the utmost importance that the cuttings be kept fresh till the last moment.

SHADE AFTER PLANTING

I prefer a lath shade though many people shade the sash with whitewash. The lath shade can be made cheaply from ordinary plaster lath. Use two heavier pieces to tack the lath on to, leave a full inch between the laths. When using them do not lay them flat on the glass, but keep them six inches above (by means of blocks, a flower pot, etc.) leaving an air space which helps materially in keeping the frame cool.

No further attention will be needed for two or three weeks, and it is just as well to forget about the frames. Lifting the sash every day and looking at the cutting retards rather than helps matters. If the general weather conditions are dry and hot give water in about two weeks; but if damp and cool the frames can be left alone for three weeks. After this second watering close up as before, and by the time watering is needed again the cuttings ought to have begun to make roots.

AFTER ROOTING

It is not necessary to pull out any of the cuttings to see if they are rooted (although the temptation to do so is great). You will know if root action is taking place by the fresher color of the cutting and the new growth.

When the young plants commence to grow ventilate the frame by raising the sash about an inch to start with, increasing the air gradually until ultimately the sash and shade are removed to harden off the plants before transplanting into the open ground.

For the first winter the young plants should have a sheltered place, if possible; and *after* freezing weather sets in cover them with a mulch of leaves or salt hay. This covering is to keep the ground from thawing and freezing, and without it the young plants will be entirely thrown out of the ground and all your labor wasted.

PROPAGATION OF CONIFERS

Evergreens require longer to root than most other plants. In July their growth is nearly complete; in August fully completed.

The careful gardener goes through his evergreens at this time and with his shears trims off any branches that have grown out of proportion to the rest of the plant. These clippings he uses for cuttings.

The growth of this year, cut off with a "heel" from the point where it started this spring, makes the best cutting. It is useless to put in small cuttings, and of no advantage to put in large ones. Try and get them of a uniform size; say from 5 to 6 inches long. Set them from 2 to $2\frac{1}{2}$ inches in the sand, the part that goes in being trimmed close to the main stem with a sharp knife. Many good cuttings will be more than six inches long, but these can have their tops trimmed off to make them conform to the others. When the heel calluses they will start to grow; but since the young roots are emitted chiefly along the stem, it is important that the sand be well firmed around the base of the cutting.

When the roots are an inch long it is time to set out the young plants; if left longer in the sand they will deteriorate, and, moreover, there is the added danger of breaking the young roots if they are any longer. Plant them out in a piece of well prepared ground, if possible in a sheltered place, and shade for a few days if the weather is bright. If possible, do the planting out on a dull day.

Since the junipers take the longest time to root it is well to commence with them. Not only the common red cedar, the Irish juniper, and all the fine glaucous varieties, but also the prostrate and procumbent varieties of communis, Chinensis, and Sabina, etc., are all easily rooted from cuttings. Some of the varieties, notably Virginiana glauca, take a long time to root, sometimes six months. They form a heavy callus, which seems to support them. They may be planted out with the others, however, and if pro-

tected will be found to have taken hold by spring.

After the junipers take the Thuyas (arborvitæs). The common occidentalis is easily raised from seed, and it is hardly worth while troubling with cuttings; but its sports and varieties such as pyramidalis lutea (Geo. Peabody), Victoria, Warreniana, etc., can only be had by cuttings. The dwarf or globe varieties, and the biotas, will root in from six weeks to two months.

The Japanese cypresses (Retinispora) root more readily, often in a month. Commence with filifera; then follow with pisifera plumosa, ericoides, squarrosa, and Veitchii. The last two are the easiest of all to root. Don't, however, imagine for a moment that you will get every cutting to root; if you can bring 50 per cent. through until next spring you will be doing well.

The pines and spruces are raised from seed and by grafting, and it is hardly worth while for the amateur to trouble with them. They can be procured very cheaply from any reliable nurseryman in small sizes when wanted to grow on.

EVERGREEN VINES

Under the heading of evergreens may also be placed English ivy, periwinkle (*Vinca minor*), and *Enonymus radicans*. These are all extremely easy to root, and the manure for bottom heat as previously described can be dispensed with. Indeed it will do to simply add a liberal sprinkling of sand to any ordinary garden soil, mix it well and put in the cuttings of half ripened wood, water well, and close the sash for three weeks. Then ventilate gradually, and when they will stand full air without wilting, remove the sash entirely for use on some other frame. These cuttings will make nice plants by fall, but should be left in the frames and given a protection of salt hay or litter when winter sets in, and transplanted next spring. My first batches were rooted by July 1st, but cuttings can be put in up to September and still give nice plants for spring planting.

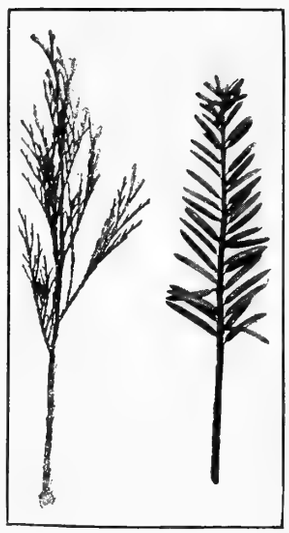
FLOWERING SHRUBS

The summer propagation of shrubs is now largely practised by nurserymen. After the spring rush is over, and the weeds under subjection, the work can be undertaken easily before the fall season opens. A number of things that are hard to root from dormant wood in spring will root freely from green cuttings. The wood of this season's growth is just right in July and August. Take it with a heel if possible, as recommended for evergreens, and cut back the top if the cutting be long.

Such things as lilacs, *Euonymus alatus* and *europea*, *Chionanthus Virginica*, various viburnums, andromedas, azaleas, and kalmia, *Daphne cneorum*, *Abelia rupestris*, and many others that are usually raised by budding or grafting, can be successfully raised from cuttings in summer. The host of every day shrubs (deutzias, forsythias, barberries, calycanthus, hydrangeas, kerrias, privets, honeysuckle, mock oranges, spireas, stephanandra, weigela, etc.), which are usually, and easily, propagated from dormant wood in early spring, may also be struck from soft wood cuttings now, if desired. They will be nicely rooted by fall, and with a slight protection will be in fine condition to put out next spring. Treat as already advised for ivy and vinca.

GROW YOUR OWN ROSES

Really it is easy to grow roses from cuttings. They may be treated as advised for ivy and vinca; but quicker and better results will be obtained if treated in the way advised for evergreens, and, after they are rooted, potted into small pots and put back in the frame and slightly shaded till they get a hold. Givesome protection in winter and the plants will be fit for putting out next spring. The Hybrid Perpetuals, Hybrid Teas, and Teas are usually budded in August or as soon as the eyes are plump, but own root roses succeed perfectly in many places, particularly if the soil be a heavy loam or clay loam, and there is no reason why the amateur gardener should not increase his stock of favorites in this way. There is some interest to be derived from noticing the behavior of different varieties; some will root more freely than others, and there is always some pleasure in being able to tell your friends how successful you have been with the shy fellows.



Evergreen cuttings ready for the frame

Nowadays no one thinks of buying any but "own root" stock of the ramblers, and the Wichuraianas can be had very easily from cuttings made now. Select wood of this year that is fairly well ripened (hard wood is slow to root and too green wood will turn black and often spoil those next to them). Cut your stems into pieces, allowing two leaves for each cutting. Pull off the lower leaf being careful not to tear off any of the bark. Also shorten back the other leaf if it be large. Then with a sharp knife make a clean cut close to the bud, where the leaf was pulled off. Get quite close to the bud without cutting it. The reason for this is that the wood is always hardest at this point, has less pith, and will heal over readily. Ramblers can also be raised by taking this year's lateral shoot with a slight heel. Practically every cutting will root.

TRICKS WITH PERENNIALS

Perennials are principally raised by seeds and division. Delphiniums, foxgloves, lupins, coreopsis, gaillardias, lychnis, pansies, bellis, sweet William, and a great many other popular favorites are raised thus from sowings made this month, and it is generally unnecessary to trouble with cuttings.

But many of our favorite varieties do not come true to seed and these have to be raised by cuttings and division. The phloxes have to be raised thus. For the early flowering type (*e. g.*, Miss Lingard), cut off the tips of the shoots before the flower buds are set, remove some of the lower leaves and trim the base as advised for roses. Treat them as advised for evergreens and they will root as readily as geraniums. The later or suffruticosa kinds (including Coquelicot and Frau G. Von Lassburg types), can also be increased this way, but a much quicker method is available:

About the end of September or beginning of October, lift the whole clump from the ground, being careful not to break off any of the small roots and keep each clump or variety separate. Lay the clump on a bench, board, or other hard surface, and with a spade chop it up as you would mince meat with a chopper. A good sized clump will thus give several hundred small pieces of root.

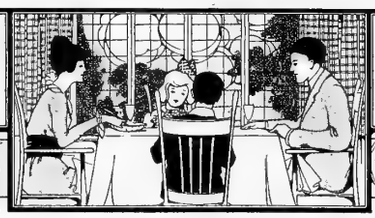
Prepare a piece of ground either in a frame or in the open garden, and sow the small pieces as you would seeds; cover them with about half an inch of earth and as winter sets in protect lightly with leaves. Next spring uncover, and in a short time the young plants will come up as thickly as in a seed bed. When large enough to handle, transplant them. Each plant will give one head of flowers the first season. *Anemone Japonica* and its varieties, *Eupatorium cœlestium*, Gypsophilla, Achillea, and any of the perennials that have similar roots can all be propagated in this way. A method of growing Anchusa from root cuttings was told in last month's GARDEN MAGAZINE; perennial or oriental poppy may be raised in exactly the same way.

Phlox subulata can be propagated readily now. Just cut from the old plants pieces about 3 to 4 inches long and dibble them into a well prepared bed in a frame; keep them well watered, and you will scarcely lose a plant.

Campanula, Physostegia, Rudbeckia, Lobelia of the cardinalis type, astilbe, and many of those plants that make a pithy growth or that send their leaves and flower spikes directly from a crown (astilbe is a good example), can be divided into single crowns in August or September. They will get a good hold before winter and will make nice plants for another year.

Veronica subsessilis, Penstemon, hardy aster, Boltonia, Asclepias, Iberis, old fashioned pinks, Dianthus and many others can be raised from cuttings, in the manner advised for the early perennial phlox.

SUGGESTIONS FOR THE HOME TABLE



Conducted by
EFFIE M. ROBINSON
Graduate of the National Training School of Cookery, London, England

AUGUST is the time when we want the "home table" outdoors. The spirit of fresh air moves every one, rich and poor alike, from the wealthy who take their tours costing thousands of dollars to the poor man with his large family for a day's "outing." I remember one holiday seeing a troop of small children dragging wearily along a dusty country road, one of them crying, and as I passed the father turned his head and called "Come on, I brought yer out to enjoy yerselves, and yer just jolly well got ter." I think that is how many people, particularly the elderly, feel about vacations. It is a wonder to me how people will give up all the comforts of a home to "board" in small, hot, stuffy rooms and sit on verandas, continually changing their dresses, and trying to imagine that they are enjoying themselves.

Camping is Freedom

ONE ideal holiday for those who don't mind roughing it a bit is camping. There you are outdoors all the time and can really get the benefit of the fresh air without being hampered by conventionalities. The food problem used to be a rather trying one, but in these days one can get almost anything canned or bottled, and canning and preserving have been brought to such perfection that the flavor of vegetables, meats and fish is not destroyed or changed like it used to be.

Holidays by Land or Sea

AND what a number of different kinds of holidays there are from which one can choose. Going abroad, a trip by sea, a trip by land, an automobile tour, a cottage by the sea, or in the mountains, boarding in some country farm or seaside resort, camping in tents or bungalows, a summer on a houseboat. Then there are daily trips by sea or land, picnics, daily visits to country friends, and others.

Those who already live in the country can give such delightful entertainments out of doors—garden parties, porch dances, hay rides, barn dances and many other pleasures suited to the neighborhood in which one lives.

In all these diversions, refreshments must be served. Nature is always asserting herself and it seems to me that one's hunger will manifest itself more quickly in the country than when one is living in a town. I suppose it is the fresh air; and travelling also, unless it makes one sick, makes one desperately hungry.

Pay Your Money and Take Your Choice

IT IS very wise to have a good supply of canned goods on your shelves to supplement the ordinary family meal food when unexpected guests drop in.

Go to one of the big food stores and investigate. You will find things canned that you had no idea people thought of putting up. Taste and try before you buy. The demonstrators are always glad to let you "sample." I saw in one place hare, Irish stew, and sweet potatoes. I have not tried the potatoes yet, but I always like to try new things and mean to do so soon. I had a most delicious sandwich paste the other day, the foundation of which was goose liver, and pork, with truffles and flavoring. My friend asked me where to get it as it was so good and she wanted it for use in her summer cottage. She goes round every summer trying to get new things. The old standbys such as canned salmon, and now its cousin, the tuna or tunny fish (very delicate and not so oily) corned beef, tongue, and the potted meats for sandwiches are all good; but one gets very tired of them and something with a flavor that is different is very desirable.

Saving on the Laundry Bills

ONE must try to make things as easy as possible and lessen work in every way. One lady has white oilcloth on the table instead of a tablecloth that needs laundering and I would suggest that the beautiful paper table cloths and dinner napkins to match might be used for company times. If you want to save dish washing, the wooden plates are good but do not look very pretty and are more suitable for picnics or campers. Towelling also comes in paper and should decidedly be used, saving the washing of dish or face towels.

At the best of times doing your own work is hard and if, in addition, you must fetch water for drinking and pick up wood for your fire, then the holiday becomes a burden instead of a rest. Nowadays things are made easier than before. There are fine oil stoves to be had and little ovens that will fit over one burner. I have one of those and use it on my gas stove and get a great deal of comfort from it. It does not heat the kitchen, and will bake everything, even a small joint or chicken. An oil stove is quickly lit and will boil a kettle of water in a few minutes.

Very often the evenings mercifully become quite cool, and it is a comforting thing to come in from a drive, or even from sitting on the porch till late, and have a warm drink. There is a prepared coffee which is of very good flavor and only requires to have boiling water added. It makes a rich cup of coffee instantly with fine aroma. Cocoa, with milk and sugar, is also put up in prepared form and is very grateful and comforting. Of course tea cannot be handled that way, but it has been compressed and made into tablets to be used in the cup with boiling water.

Rather a good substitute for fresh cream, which is in fact preferred by some, is the evaporated milk or cream. I do not mean the sweetened or condensed milk which is so useful in its place and delicious in coffee; this is unsweetened. It does not, however, keep very long. Try it some time when the cream turns sour.

Drinks Hot or Cold

BESIDES the canned meats and fishes of which there are such variety — not to speak of the fruits and vegetables which you will be able to get fresh — there are ready bottled drinks to suit all tastes; and fruit juices, grape and lime, particularly. Grape juice to my mind needs aërated water as its sweetness is not very thirst quenching unless ice cold and seltzered, but lime juice is the most refreshing drink I have tasted in a long time and quenches the thirst and cools one off on a hot day better than the old timers, lemonade and orangeade.

I am, though, a tea fiend and a cup of tea, even if it makes me very warm at first, really refreshes me more than anything else. It may be served iced, of course, but to a real English tea drinker, hot tea is the only thing. There are also beef extracts and bouillon cubes that only need boiling water. Also clam broth in bottles, besides all sorts of soups, both thick and thin. Horlick's malted milk is filling and refreshing. It is a good thing to take on an ocean trip for the baby as it is easy to prepare.

A Blessing for the Babies

TALKING about babies another great convenience is the thermos bottle, which keeps liquids either hot or cold. For August we do not wish to think of anything hot, and will use it for cold drinks. But it is a boon to mothers who have their little babies who must have warm food.

All foods advertised in this department have been tested and approved by Effie M. Robinson. They are also sold and recommended by the Doubleday, Page & Co. Coöperative Store

SUGGESTIONS FOR THE HOME TABLE

Conducted by
EFFIE M. ROBINSON

Graduate of the National Training School of Cookery, London, England

WHAT THIS DEPARTMENT MEANS TO THE READERS OF THE GARDEN MAGAZINE

WHEN the idea of this "Suggestions for the Home Table" Department was first conceived the interests of our readers were naturally uppermost in our minds.

We felt from the first that the idea was closely allied with the theme and purpose of this magazine, and after most careful thought and investigation we became convinced that in the general plan and programme of THE GARDEN MAGAZINE there was a definite place for a department of this kind and that it would be of real value and service to our readers.

Accordingly we engaged the services of Miss Effie M. Robinson, a graduate of the National Training School of Cookery in London, and the idea became a reality in the June number.

And as a logical supplement to the editorial matter we decided to offer a limited amount of advertising space in this section to the manufacturers of food products approved by Miss Robinson, a number of whom have already taken advantage of this exceptional opportunity.

It will be well worth your while to read carefully each month Miss Robinson's articles and then to digest thoroughly the information contained in the different advertisements for we believe the institution of this department to be one of the most constructive steps THE GARDEN MAGAZINE has taken in the ten years of its existence and that you will find herein many ideas and suggestions that will be of the greatest assistance to you in your housekeeping activities.

Miss Robinson will be glad to answer personally any inquiry regarding any subject whatsoever in connection with the home table, which our readers may care to send her. Address care of The Garden Magazine, Garden City, Long Island, New York

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COMING EVENTS CLUB & SOCIETY NEWS

Meetings and Exhibitions in August

3. Staten Island Garden Club, New Dorp, S. I.: meeting.
6. Worcester County Horticultural Society Worcester, Mass.: exhibition.
7. Pasadena Horticultural Society, Pasadena, Calif.: meeting.
7-8. Gladiolus Society of Ohio, Cleveland, Ohio: annual exhibition.
8-9. Massachusetts Horticultural Society, Boston, Mass.: gladiolus and phlox exhibition.
9. Pasadena Horticultural Society, Pasadena, Calif.: picnic.
10 New Rochelle, N. Y., Garden Club: meeting.
11-14. Railway Gardening Association, New York: annual meeting.
12. Nassau County Horticultural Society, Pembroke Hall, Glen Cove, L. I.: meeting.
12-13. Newport Horticultural Society, Newport, R. I.: summer show.
13. Worcester County Horticultural Society, Worcester, Mass.: exhibition.
13-15. Newport, R. I. Garden Club show.
15-16. New York Horticultural Society, Museum of Natural History, New York City: gladiolus show and meeting.
17. Staten Island Garden Club, New Dorp, S. I.: meeting.
18-19-20. Society of American Florists and Ornamental Horticulturists, Boston, Mass.: annual convention and meetings.
20. American Gladiolus Society, Boston Mass.: annual meeting.
Worcester County Horticultural Society, Worcester, Mass.: exhibition.
American Carnation Society, Boston, Mass.: meeting.
American Rose Society, Boston, Mass.: meeting.
21. Pasadena Horticultural Society, Pasadena, Calif.: meeting.
26-27-28 Central New York Horticultural Society, New Hartford, N. Y.: second annual exhibition.
27. Worcester County Horticultural Society, Worcester, Mass.: exhibition.

Dates to be fixed later, according to local conditions:
Ridge Women's Club, Tracy, Chicago, Ill.: third annual flower show.

Foreign Fixtures

Berne, Switzerland: Exhibition May 15, to October 15.
London, England: Anglo-American Exhibition at Shepherds Bush, May to October; Royal Horticultural Society's Hall, Vincent Square, Dahlias, September 8; Vegetables, September 22; roses, September 24; British-grown fruit, September 29, 30.
Lyons, France: International Urban Exhibition, May 1st to November 1st, 1915.
Moscow, Russia: Universal Exhibition of Trade and Commerce, spring, 1915.

Note:—The Editors will be grateful for information about the doings of gardening societies, clubs, etc., and especially as regards coming events. In order to ensure timely publication, the information must reach the Editors by the *twelfth day of the month preceding the date of issue* in which the notice should appear.

New Roses on Trial

THE Judging Committee of the American Rose Society inspected the test plots in the Elizabeth Park, Hartford, Conn., on June 19th. It is interesting to note that some of the most promising novelties on trial in this garden are of American origin. There are forty beds in the test garden, and out of all, the variety Panama, raised by John Cook of Baltimore, a cross between a Frau Karl Druschki and an unreported Hybrid Tea seedling, seems to promise well as a free flowering garden rose. The blooms have the palest flush of pink, are of large size, produced freely, and the petals endure quite a long time. The plant itself is vigorous. This variety received the silver medal in the trial last year.

Radiance holds its record as a good outdoor rose; very vigorous, free flowering, and the individual flowers solid and brilliantly colored. Mrs. Wakefield Christy Miller, of a somewhat similar character, was awarded the silver medal as a bedding rose. An unnamed seedling from Etoile de France, dwarf, sturdy, and full of bloom of rich, deep crimson, dark shading, is a rose that will possibly attract attention in the future. Robin Hood, a similarly deep crimson rose, is said to be far superior in character in the fall. It has, in addition to deep color, good fragrance.

W. R. Smith seems to be increasing in favor as a garden rose. The general tone of the flower is sulphur yellow, with the outer petals flushed pink, which it gets from its Tea parent. It is a free flowering variety and produces long stems.

A single flowering climbing rose raised from Gruss an Teplitz was conspicuous because of its intense color, but having a tinge of purple over the otherwise white centre. It is a decidedly peculiar color, but may serve acceptably in special locations. The following awards were made on this year's inspection:

William R. Smith, Defiance	Bed 11		Conard & Jones	81	points
King George	"	43	Edward Kress	77	"
Mrs. David Baillie	"	36	Hugh Dickson	80	"
Mrs. Sam Ross	"	37	" "	62	"
Mrs. Richard Draper	"	38	" "	76	"
Souvenir de Marquis Louriero	"	39	" "	75	"
Miss Ruth	"	42	Ketten Freres	73	"
	"	44	Carl Peterson	75	"

Alabama, a Strawberry State

THE census for 1910 represented the state of Alabama as shipping 135 carloads of strawberries. It is found on investigation that the state is shipping at the present time some 700 or 800 carloads, so that the industry has been growing rapidly during the past few years. Alabama strawberries have a reputation for superior quality in the Northern markets and, coming after Florida and some other states, have their own peculiar season in the markets. The great need has been coöperation and organization and the building up of the interest at a given point so as to ship in large quantities. Thorsby is a point at which fine berries are produced in large quantities, shipping 30 to 40 carloads. There is also a strawberry centre in the western part of the state at York and Demopolis, and a number of carloads are produced at that point. —E. W.

The American Sweet Pea Society

THE sixth annual exhibition that was held in the Museum of Natural History on June 27th, resulted in the largest display that this organization has yet had. More than 2,000 vases of bloom were on exhibition. The most important display by Mr. W. Gray, of Newport, R. I., which won the A. T. Boddington cup, was of unusual quality. It will be of interest to know the varieties with which this exhibitor was so successful. They were Elfrida Pearson, Lady Evelyn Eyre, Charles Foster, Empress Eugenie, Martha Washington, Mrs. W. C. Breadmore, Prince George, Nubian, Queen of Norway, Dorothy Tennant, Wedgewood, Hercules, Mrs. Cuthbertson, Blue Jacket, Clara Curtis, Maud Holmes, Helen Lewis, Loyalty, King White, Rosabelle, Etta Dyke, America, Thomas Stevenson, Orchid, and John Ingman.

THE GARDEN MAGAZINE Achievement Medal offered for the finest vase of sweet peas in the amateur section, was awarded for the variety Mrs. Cuthbertson exhibited by Mr. Gray.

In the color classes, the prize winning varieties were: White, King White; light pink, Blanche Ferry and Elfrida Pearson, lavender, Dorothy Tennant; Salmon or rose, Salmon Spencer; crimson or scarlet, Vermilion Brilliant; primrose, Isabelle Malcome and Primrose Beauty; any other color, Mrs. Townsend; rose or carmine, George Herbert: deep pink, Constance Oliver; blue, Blue Jacket; cerise, John Ingman; Salmon or orange, Edna Unwin; violet or purple, Purple Prince; picotee-edged, Elsie Herbert; striped or flaked red. America Spencer; striped or flaked blue, Loyalty; bicolor, Mrs. Cuthbertson; any other distinct from above, Senator Spencer.

The Spencer varieties, it will be seen, were largely in the ascendant, comparatively few of the old grandiflora were seen.

The election of officers resulted as follows: President, Lester L. Morse, California; Vice-President, A. M. Kirby, New York; Secretary, Harry A. Bunyard, New York; Treasurer, Arthur T. Boddington, New York.

Madonna Lily

(Lilium Candidum)

On stems 3-4 feet tall, the deliciously fragrant flowers are borne 10-20 to each stalk. Keep in bloom June-August.

The **one pure white Hardy Garden Lily.** Must be planted early to succeed. (Bulbs ready August 15th.)

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Large Bulbs	**$.12**	**$1.25**	**$ 8.00**
Extra Size	**.15**	**1.60**	**10.50**
Mammoth	**.20**	**2.00**	**12.00**
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Lilies gathered in deep forests or mossy glens of Europe, Asia or your own Countree.

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Amaryllis of royal strain.

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BRAND'S Faribault, Minn.

Pot-Grown Strawberry Plants

as shown in the cut are much the best. The roots are all there—and good roots, too. If set out in August and September will produce a crop of berries next June. I have the finest stock of plants in the New England States.

Send for Catalogue and Price List.

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MOST POPULAR GARDEN FLOWER! Cordial invitation extended to all to visit my gardens during flowering season. Sample box containing 50 blossoms, different kinds, all labeled with names, for $1.00, to cover labeling and packing; express to be paid by purchaser.

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Toward the End of Summer

SOW pansies now. Prepare the soil by making it fine and loose, and fertilizing with some well rotted manure. Do not sow the seed too thickly, and cover it very lightly. Carefully firm the soil. Spread an old burlap sack over the bed and keep it well moistened until the seed begins germinating; then let in light and sunshine by degrees, until the seedlings are strong enough to stand the full rays of the sun.

Chrysanthemums may be staked and disbudded to produce large, showy flowers. Also begin to give them liquid manure. If this cannot be had nitrate of potash and nitrate of soda are good substitutes.

Geranium cuttings can be made now.

August is usually a dry month, and plants will suffer unless given water. If chrysanthemums are allowed to dry out for even a day it will seriously interfere with the size of the flowers; the plants must have plenty of water to produce big flowers. A mulch of green grass will help wonderfully to preserve the moisture, and to keep the soil around the roots cool. This helps, too, to increase the size of the flowers.

Hollyhock, carnation, peony, and perennial phlox seed may be sown during the month; the seed beds must be kept moist to insure germination. Remember, begin to pot hyacinths and narcissus now for winter flowers. Get first size bulbs for this purpose.

Order Madonna lilies at once, and plant just as soon as they arrive. Just think what a beautiful display a thousand bulbs will make along the roadside of your estate! You get earlier and better flowers by planting these bulbs now.

Freesia and cyclamen make pretty plants for window gardens and may now be potted.

Prune roses and flowering shrubs as they finish blossoming. Be sure the shears are sharp; dull ones bruise the bushes, which causes future trouble and loss of time in pruning.

Keep flowers picked off so that plants will continue flowering. There are many kinds of annuals that can be planted yet for fall flowers. Look over the seed catalogue, and some of the planting tables that have appeared in THE GARDEN MAGAZINE.

IN THE VEGETABLE GARDEN

Transplant celery now. Remember that rich soil and plenty of moisture are what it needs.

Early bush beans and bush squashes may be planted up to the last of the month.

Harvest onions now if the tops begin to fall.

Fall cabbage may be set out during the month; if you have not grown plants, buy some.

Cow peas may be planted in vacant spots in the garden so as to enrich the soil.

Every home gardener that can afford the price (which is not high) should have a small greenhouse in order to furnish his table with fresh tender vegetables during the winter.

IN THE FRUIT GARDEN

Remember that no rotten or unused fruits should stay in the orchard, as they encourage diseases and borers.

Blackberries and raspberries may be pruned now. Soil should be prepared late in the month for strawberries. Potted plants should be set out during September; if you are not growing your plants, order them from a reliable nurseryman to be shipped next month. Remember not to prune grapes until winter; they will bleed to death if pruned when the sap is up.

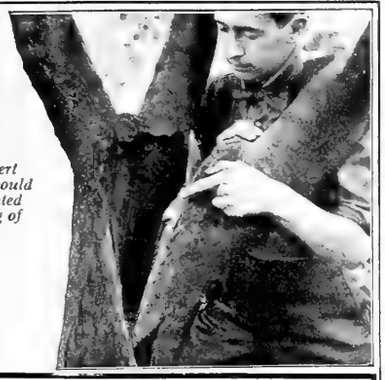
Cultivation of fruit trees may be stopped toward the last of the month, but be sure to get the soil free from weeds before stopping. Clover for a cover crop may be sown in the orchard the last of the month; it is better than rye for this purpose.

WORK ON THE FARM

Cotton picking is now the "order of the day" in the South. Keep it picked as fast as it opens, if possible.

Cow pea hay will begin to ripen during the month and should be cut for winter grazing. Patches of rye should be sown during the month so that it will get a good start before grazing time.

Georgia. THOMAS J. STEED.



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Your trees are in danger of this!

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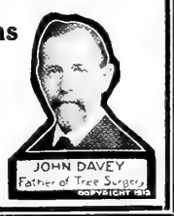

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Send for free copy of the China Book. This handsome brochure tells how china is made in the greatest pottery in the world and how to select and care for it.

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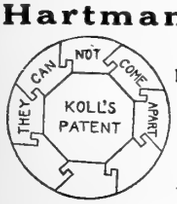

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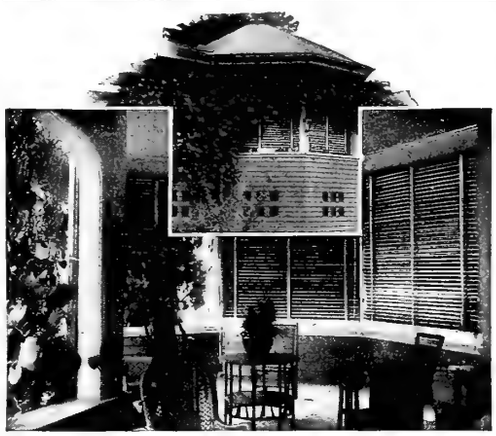

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Burlington Venetian Blinds

will make your porch a shady, airy summer resort with such perfect privacy that you can eat, sleep and live in the health-giving open air. The upper slats can be adjusted to admit light, while the lower slats are closed to shut out sun and gaze of passers-by. Easily lowered and raised.

When you install Burlington Venetian Blinds, you will need Burlington "First Quality" Window Screens (inside and outside) and Screen Doors with Rust-proof Wire Cloth.

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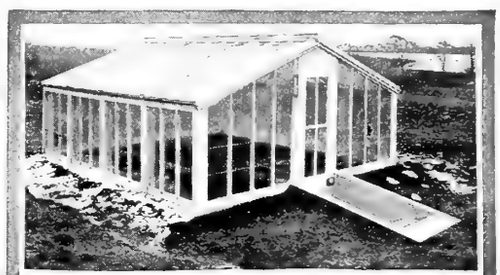

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Use **Sunlight Double Glass** Sash on this inexpensive ready-made greenhouse.

The sash serve either on hot-beds or cold frames or on the greenhouse according to the season and the plants you want to grow.

The greenhouse is so made that the sash are readily removable when wanted for other work.

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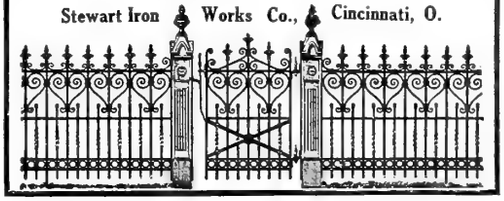

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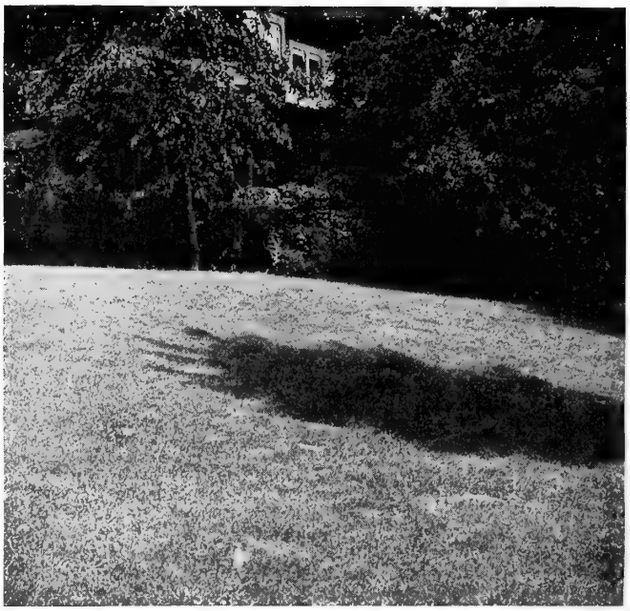
Last Fall this Lawn was full of bare spots. The grass was spindly and had all the looks of discouragement. The soil was just plain "played out." Its lack of humus made it hard and "bakey."



In September Alphano Humus was put on freely and thoroughly raked in and then seeded. This Spring the grass came thick and sturdy. All Summer long it has been noticeably so and continued a deep rich green through the hot dry weather. Location and name of owner gladly furnished.

Reasons Why Fall Is an Ideal Time for Making New Lawns or Repairing Old Ones When Alphano Humus Is Used

OF FIRST importance — weather conditions highly favor Fall grass growth. The ground is warm through and through, so the seeds sprout quickly and grow rapidly. The hot, drying winds and burning suns of Summer are over. The days are warm enough to stimulate growth; the nights, agreeably cool, so top growth is checked just enough to promote strong and hardy root growth. After the middle of August, dews are heavy and rains more frequent. As the cold, frosty nights come, the stored-up heat of the earth keeps the roots growing, long after the tops are at a standstill.

Fall-sown, or so-called "winter wheat," is richer in gluten and life-giving nitrogen than is Spring-sown. Richer, simply because Nature, in her wisdom, fortifies the roots against the Winter; and the stronger the roots, the greater the backbone or stamina is in the top growth.

All this being so obviously so, then any time from the middle of August on till the first of October, is the ideal time for repairing old lawns or making new ones, *provided only that your soil conditions are right.*

By "right," we mean right in the essential plant foods to induce rapid, unchecked root-growth; and sufficiently rich in humus to retain the necessary moisture and render the soil friable and open for its rapid and constant aëration. It's worse than folly to attempt lawn-making in the Fall, if your soil is not as rich as it should be. Roots that have to struggle for a living at the start surely can not be expected to endure the rigors of Winter and have much vitality next Spring.

To scatter barnyard manure over the bare spots on your lawn now, would be so unsightly and obnoxious, it's out of the question. To mix lumps with the soil of a newly prepared lawn, as thoroughly as it should be, to be of the necessary immediate assistance to the roots, is neither an easy nor an inexpensive task. Right here it is then, that Alphano Humus in its granulated, odorless form, steps in as your ideal grass food and permanent lawn soil-builder. You can put it on your old lawn; or spread it over your newly prepared soil and rake it in.

Not only will this Alphano Humus give to the roots the immediate foods needed; but its bacterial action will yeast up the soil for several seasons to come. It will constantly liberate the locked up elements in the soil. Absorbing as it does 14 times more moisture than sand, it acts as an internal mulch for the roots. Alphano Humus is not a temporary soil stimulant. It is a permanent soil builder.

Just so you may know exactly what this Alphano Humus is, and exactly what it will do for you, as proven by what it has done for others, send for our Convincement Book. It tells the whole Humus story in a boiled down way. "Before and after" effects are shown by numerous illustrations. The personal expressions of users add further convincement. Send for this Convincement Book. Use Alphano Humus on your lawn this Fall. Dig it around your shrubs and Hardy Garden Plants. Start now building up your vegetable garden soil with Humus, for next Spring. More Humus means earlier and better crops. Do all such soil enriching this Fall and be just that much ahead with your Spring work.

The earliness and striking abundance of the results next Spring will convert you into an enthusiast of "gardening by pre-arrangement," as the Japs call it.

5 BAGS for $5

$12 a ton in bags. $8 a ton by the carload in bulk.
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Irises Daffodils Grapes

COUNTRY LIFE IN AMERICA

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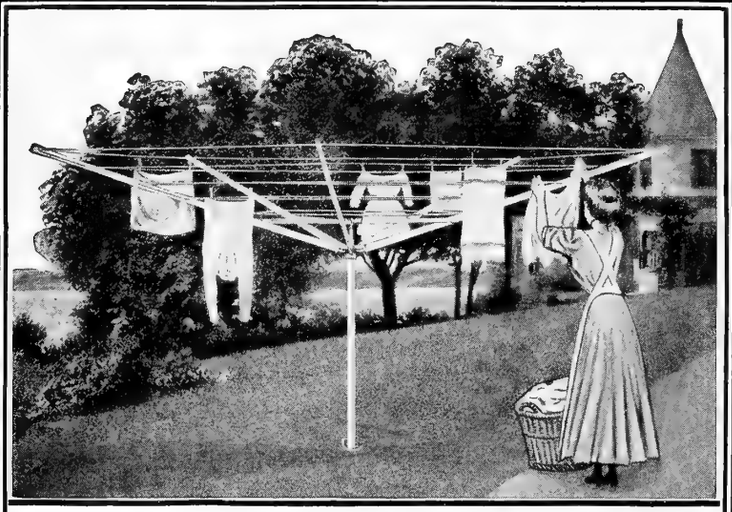

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will save women 630 useless steps and close on to an hour every wash-day. No line to put up or take down. Just stand in one place and turn the revolving top until the entire wash is hung out. Can be put up in one minute. Compact and sightly. Made by the same company that makes Hill's Balcony Dryer for apartments, and Hill's "Hustler" Ash Sifter.

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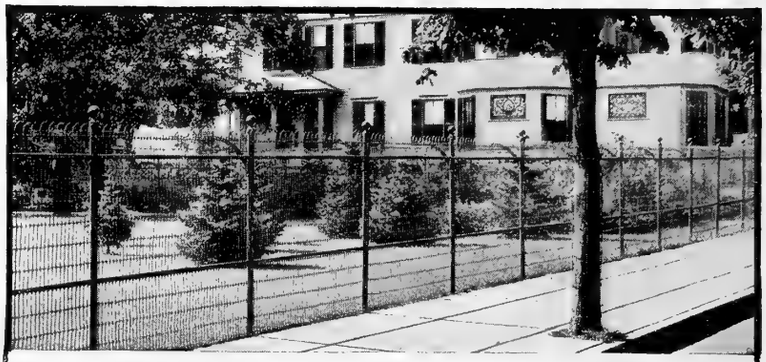

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THE TALK OF THE OFFICE

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And go to 't with delight."—*Antony and Cleopatra.*

THE TWENTY-FOURTH OF JUNE

THE books that are in the long run the most popular are the wholesome books. The books which treat of subjects which are included in the tainted class, no matter how brilliantly written, may have a temporary success, but never a lasting one. We believe that there will be a good deal of discussion on this subject arising this time not through the success of bad books, but through the large sales of worthy books; and we offer as an exhibit in this type Mrs. Grace S. Richmond's new story. "The Twenty-fourth of June: Midsummer's Day."

Mrs. Richmond's "Juliet Stories," and her books about Red Pepper Burns and Mrs. Red Pepper Burns have steadily increased in sales year by year, so that her audience is just ready for a great expansion, and this new novel will, we believe, bring it about.

MRS. RICHMOND THE NOVELIST OF THE HOME

Not only is "The Twenty-fourth of June" wholesome and really romantic, but it has that subtle home quality which Mrs. Richmond is able to put into her books to the great delight of her readers. In this novel the heroine is one of an interesting family whose domestic life is normal and charming. The hero has no such good fortune and he soon discovers that his money in no way compensates.

It is the story of good, wholesome, high-spirited Americans, that gives this book its great charm. The publishers have tried to do well for the volume from its mechanical side; it is decorated by some delicate and appropriate drawings, and printed in color throughout the whole book. We think that in appearance it is really as charming in its execution as the text is delightful. We may be claiming too much, but a first edition of 25,000 indicates that booksellers agree with us.

A NEW BOOK BY THE COUNTESS VON ARNIM

For the last year or more an announcement has been going around in the newspapers that the Countess von Arnim was just about to publish a new book. The truth of the matter is that she has been working on this book for four years. Two-thirds of the manuscript was completed in July, 1914, and has just reached us from the Countess's home in Switzerland. If we are not mistaken, the book will be

Courtesy of Baltimore Sun

T. R. reading "Penrod," by Booth Tarkington

Courtesy of International News Service

T. R. on Madrid train and the book is *not* "Penrod"

received with the utmost delight by her large following of readers who enjoy her analysis of the German character as it comes in touch with people of other nations. The story concerns the adventures of a young English girl who is married out of hand by sheer force of domination by a German Lutheran minister, who is more of a scientist than he is a minister. The drawing of the character of Herr Dremmel is certainly as delightful and amusing as anything she has written. "The Caravaners" still goes on finding new readers month by month. It is a pleasure to be able to announce this new book, which will be published some time in October.

THE PLACE BEYOND THE WINDS

A new novel by Mrs. Harriet T. Comstock, whose "Joyce of the North Woods" has sold upward of a hundred thousand copies, will be published on September 15th. It is called "The Place Beyond the Winds." We believe Mrs. Comstock's readers will enjoy it quite as well as any of her other books: in fact, it is, in our opinion, a stronger and better piece of work.

THE FARMER'S CYCLOPEDIA

One of the greatest successes that Doubleday, Page & Co. has made in the last few years is the publication of "The Farmer's Cyclopedia." The information contained in these seven volumes has been drawn from the Department of Agriculture reports, arranged and indexed and classified in such a way that all this vast amount of knowledge, on which the Government has spent millions of dollars, is available, illustrated with a host of valuable pictures for the farmer, amateur or professional, in all parts of the United States. If you would like to have a set sent to you on approval, fill in the attached coupon.

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Late Blooming Peonies for Cut Flowers

What are a few of the best white, pink, and red late blooming peonies for cut flowers? — B. C. G., New York.

— White: Marie Lemoine, Couronne d'Or, Avalanch. Pink: Bernard Palissy, Albert Crousse, Mme. Muyssart, Mme. Bollet, Livingstone, Charlemagne, Mme. de Galhau. Red: Rubra Superba, Delachei, Prince Imperial, Louis Van Houtte, Marechal Vaillant, Meissonier.

Munstead Primrose

What is the botanical name of the Munstead primrose, and where can I obtain it?— L. O., New Jersey.

— The Munstead primrose has no botanical name. It is listed as Primrose-Polyanthus, Munstead Giant Strain, in the catalogue of A. T. Boddington, 342 West 14th St., New York.

The Hayes Grape

Where can I procure plants of the Hayes grape? — E. S., New York.

— The Hayes grape is offered for sale by the T. S. Hubbard Company of Fredonia, N. Y.

Botanical Supplies

Please refer me to a firm from whom I can purchase supplies needed by an amateur botanist for preparing specimens, etc.— S. L. E., N. C.

— Botanical supplies can be obtained from the Cambridge Botanical Supply Company of Cambridge, Mass., or from the Kny Scheerer Company of 404 West 27th St., New York. Possibly your state experiment station at Raleigh might be able to give you the name of a dealer who is nearer to you.

Apples for Market

Last spring I set out 200 Baldwin, 50 Greening, and 50 Northern Spy apple trees. I am about five minutes' drive from a railroad station, and only twenty miles from a city of 160,000. Under these conditions do you think I should top-work the Baldwins to Spies, McIntosh, Kings, etc., and try for a fancy trade; or is a good grade of Baldwins profitable?— B. C. D., Massachusetts.

— The demand of your particular market is an important factor, but undoubtedly high grade Baldwins can always be marketed at profitable prices. We certainly do not advise growing several varieties in one small orchard. Each kind requires special care and less than fifty trees of any one sort will not yield enough to warrant the expense associated with a fancy trade. If you do any top-working, make the other one hundred trees Baldwins and give all your attention to that variety.

Arsenate of Lead in Combination

Is it possible to combine arsenate of lead with kerosene emulsion; and if so, what proportions should be used?— L. V. N., New York.

— There is no chemical reason why arsenate of lead should not be mixed with kerosene emulsion, but there might be serious mechanical difficulties, as the particles of the arsenate of lead would have a tendency to emulsify the kerosene. If it is necessary to use the arsenate in combination, the best way would be to mix it with bordeaux mixture. Kerosene emulsion is used for *sucking* insects: arsenate of lead for *chewing* insects.

The Lupine Family

Please tell me something about the culture of annual and hardy lupines. I have tried to grow the latter, but with no success.— M. A. H., New York.

— The lupine consists of a group of about eighty species mostly confined to Western North America, a few growing in Eastern North America and in the Mediterranean region. All are of easy cultivation in any garden, except that they are said not to succeed in soil containing lime. Possibly this is your trouble. Some species prefer sandy land, others good garden soil, while others prefer gravelly places.

The Peach Tree Borer

How shall I treat peach trees infested with borers; some trees, not yet bearing, have the sap oozing out in a dozen places.— E. C. K., New York.

— Wherever you discover a borer in your peach trees, dig it out of the cavity and destroy it. As a preventive measure there is perhaps nothing better than to coat the trunk and larger branches with a mixture of soft soap reduced, with a solution of washing soda, to the consistency of a thick paint; and, if a little carbolic acid is added, it will be even more repulsive to the beetles. Keep it on the trees during the summer months when the insect is injurious. We would advise clean cultivation around the trees, which will remove to a great extent the danger of borers in the future.

Propagating Hydrangeas

I have several bushes of *Hydrangea arborescens*, and would like to start more from these. What is the best way to do it?— C. R., Wisconsin.

— Hydrangeas are easily propagated under glass in summer by cuttings of half ripened or nearly ripened wood; also by hard wood cuttings, layers, suckers or divisions of older plants. They grow best in a rich, porous and somewhat moist soil and thrive well in partly shaded positions, but they flower more freely in full sun if they have sufficient moisture.

Scale on House Ferns

How can I exterminate scale, a black, oval, juicy substance which forms on the leaves and stems of house ferns?— A. M. J., Ill.

— Once the scale has become established, it is very difficult to get rid of. The big scales on the leaves are the matured individual insects. Continually keeping at the plant will control the scale, but even after the plant has been freed from the pest there is danger of reinfection. In one case that we know of, the scales were picked off by hand individually and allowed to fall on the table on which the plant was placed. The tips of the fronds touched the table and became infected. The most efficient remedy is hand treatment, using some oil, such as fir oil, lemon oil, or even kerosene oil, but only enough should be applied to saturate the scale. The oil may be applied with a toothpick or fine brush and should come in actual contact with the scale.

The Spit Bug

In our garden we are plagued with the spit bugs. We never see them before they appear as pale green insects, enveloped in froth, well up the stem of the plant, preferably a chrysanthemum. Presently they develop jumping and flying powers which makes them almost invincible, and they then do endless harm to all flower buds. I have tried powdered hellebore, but they were found in it quite happy. Can you tell me where these bugs have their origin; for if one knew where to find the eggs or larvæ they might be easier to destroy.— A. F. P., Canada.

— The insect to which you refer is called in some sections the frog hopper, or spittle insect. It is a true bug or member of the Hemiptera and more specifically of the family Cercopidæ. Comparatively little is known of its habits and life history beyond the fact that eggs are laid on leaves and plants in the fall, hatching out in the spring. The insects live either singly or in groups of several in the masses of froth, which are produced from the anal secretions beaten up by the continued thrashings of the posterior part of the insect. Although no directions for its destruction are given by most entomologists, our opinion is that careful cleaning up and, if necessary, the burying of litter, dead grass, etc., in the fall and occasional sprayings with kerosene emulsion or whale oil soap in the spring, should prove sufficient. As the insect feeds on the juices of the plant, ordinary poisons are ineffective.

Moving a Grape Trellis

I have a row of grapes that I wish to move, provided it can be done successfully. They are four years old, and growing and bearing well. If you advise it, at what time should it be done and how severely should the vines be pruned?— S. M. G., Conn.

—Trellises, with grapes growing upon them, have been successfully moved. It should be done in the spring as early as possible, cutting back the vines severely. You must anticipate losing one season's crop. If you plant one Concord on your trellis you will probably get all the fruit you want. If the plants are very old and have very large root systems, it might be better to start with entirely new young vines. If all the vines are only four years old, they should be moved without any trouble.

Trees For An Avenue Effect

An old, abandoned, macadamized roadway through my property is to be made part of the entrance driveway and must be narrowed with an avenue of trees. What trees would you suggest for the purpose for this climate?— A. J. W., Maine.

— The sugar maple will be perfectly satisfactory for your avenue as it is a native of the region and grows faster than the Norway. It is our feeling that a native tree should be used unless the treatment is very frankly a garden treatment, in which case arborvitæ might be considered. Assuming that you prefer a quick growing tree the sugar maple is better than the other maples, but its wood is softer and more liable to damage by storms. The harder the wood of the tree the slower its growth, but it is also more stable. If you want quick results use soft wooded trees. White oak might be used if you can get it established, but again this tree has the disadvantage of slow growth.

Buckwheat Hulls For Fertilizer

Please advise me as to the value of buckwheat hulls as a fertilizer for my garden in which the soil is a fairly good loam with neither sand nor clay predominating. They can be obtained at the cost of hauling about six hundred feet.— W. M. C., Pennsylvania.

— On such a soil we would expect buckwheat hulls to do more harm than good. Although by chemical analysis they are potentially worth $2.26 a ton, they form an unbalanced fertilizer, being richest in potash, which the average soil contains in sufficient quantity. They decompose very slowly and being dry and flaky do not add to the humus content as peat, leafmold, manure or even sawdust would do. We can conceive of their improving the physical condition of a heavy, wet, sticky clay or muck, but do not advise their use by our correspondent, at least, until composted for a season or two.

THE GARDEN MAGAZINE

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The Garden Magazine

VOLUME XX SEPTEMBER, 1914 NUMBER 2

THE MONTH'S REMINDER

COMPILED WITH SPECIAL REFERENCE TO THE HOME GARDEN, FROM THE TEN YEARS' DIARIES OF A PRACTICAL EXPERT GARDENER

For reckoning dates, the latitude of New York City is generally taken as a standard. In applying the directions to other localities, allow six days' difference for every hundred miles of latitude

MAKE your plans now for a garden of beauty and joy next spring. During September you can accomplish a great deal of work that will show in results next year. Not only is September the ideal month for planting peonies, iris, phlox, and a host of other herbaceous plants, but daffodils and other bulbs that were lifted earlier this year are better replanted now before the new purchases arrive. During this month too, you can plan quietly for actual planting of trees, shrubs, and herbaceous stock generally in October and November.

LETTUCE is one of the big possibilities for September; sow a good big patch early in the month. Big Boston, May King, Maximum, in fact any of the big heading varieties can be used. Of course, protection will be required for these plants late in the fall but with plenty of good meadow hay or dry leaves this sowing can be kept out-of-doors until Christmas.

Vegetables to be Sown

Radishes are an excellent fall vegetable; two sowings can be made this month. A couple of sowings of spinach can also be made; sow in fairly liberal patches as that which is not used can be covered during the winter with a little salt hay or leaves and will be ready for use very early in the spring.

This is the last chance to sow some French globe artichoke for next season. Plants from seed sown now must be wintered over in a coldframe.

Two sowings of peas can be made during the month, using early varieties, of course.

KEEP a sharp lookout for the cabbage worm on the late crop. This is about the last of the insect pests, however. You can spray the plants with poison when small; but later on the worms had better be removed by hand picking. Cabbage and cauliflower set out last month must not be allowed to suffer for want of water.

What Growing Crops Need

Don't neglect to feed your celery occasionally. This has a tendency to promote fast growth and with celery that means quality. Liquid manures are the best feeding agents, with a dose of nitrate of soda once in a while.

The final hilling can be given the leeks late this month; if you want size, feed freely.

Does the rhubarb plot need resetting? If so, late this month is the time to get at it. If it seems overcrowded, dig up the old plants, cut them into four pieces and reset — which also gives you the chance to work some fertilizer into the bed.

Keep tomato plants tied up well and keep the fruit picked clean as it keeps much better in a basket than it does on the vine.

Roots of parsley can be transferred from the garden to greenhouse or frame; give a good rich soil and strip off the foliage when transplanting.

All winter crops, or crops that are intended for winter use, should be kept well cultivated. September is usually a good growing month and cultivation helps growth considerably.

POTATOES may now be dug and stored, provided you have a good place to keep them; if you haven't a good, cool cellar they will be better off left in the field so long as the weather is not too wet. When digging, use some care not to leave the tubers exposed to the sun all day; they should be left in the sun and air only long enough to dry them thoroughly. After storing the potatoes should be picked over occasionally and any rotted ones removed. And don't forget to sow rye on the plot immediately the potatoes are out of the way.

Handling Potatoes

AFTER crops have finished, and the space they occupied has been thoroughly cleaned, sow rye, which not only stops weed growth and makes the garden clean and attractive looking during the fall and winter, but is also very beneficial to the soil when turned under in the spring in supplying the essential humus. Make a rule not to allow any part of the garden to go into winter without a cover crop.

Cover Crops

THIS is the ideal time to sow lawns. The ground should be well worked and made ready by several deep cultivations. This also kills weed growth. Use plenty of seed; from five to six bushels to the acre will insure a good stand. Lawns sown at this time are very free from weeds. Some authorities use even much more seed than that and get a very dense, fine mat of young grass. The surest way to keep out the weeds is to keep in the grass.

Lawns and Pastures

This is also a good time to sow pasture lots. These should be handled similarly to lawns, first plowing under a liberal supply of manure and after several good workings sowing the seed.

Some claim that manure is conducive to weed growth, and while this is true in a measure, yet it will usually be found that so far as the average amateur is concerned, a good coating of manure is a very good way to establish a lawn; or commercial humus can be used.

THE herbaceous perennial borders grows constantly in popular favor, and it gives to the garden unusual opportunity for individual expression. No two borders can ever be exactly alike. If you are planning any such addition or extension now is a good time of the year to prepare the site for planting.

Working Over Perennials

First of all, select a suitable place for the perennial border. Don't attempt to sprinkle plants promiscuously over the area; their proper placing is just as important to the permanency of your place as the locating of a walk or drive.

Thorough enrichment of the soil before planting is imperative if you want good flowers. Do this by incorporating some well rotted manure with the soil. Remember you want lasting results — the border is expected to endure for some years. Therefore, trench the ground three feet deep, reversing the soil, placing the top soil to the bottom and bringing the bottom soil to the surface.

This is done in layers, using a foot of soil and about four inches of manure so that when finished it resembles in formation a layer cake.

Young borders or plantings of perennials which are not to be disturbed for this year, should be carefully cultivated, being particularly careful to remove by hand any weeds that are right at the base of the plants, as these weeds start off in spring with such vigor as to smother the plant. Also be sure that all labels are in good condition. This is a very important, but often neglected detail.

Plant Peonies Now

ALTHOUGH a trifle early for most perennials, September is the accepted time for the planting of the peony. This well known herbaceous plant has become so popular that there are now a number of growers who specialize on the peony and have large and rich collections of this beautiful flower. By a careful selection of varieties you can prolong the season of peony bloom, which is desirable because the flowering season of any given variety is rather short. The dealers' lists convey very full information on this and other desirable points.

Flowers Now Growing

CANTERBURY BELLS, foxgloves, daisy (Bellis), etc., that are to be wintered over in coldframes, had better be planted in them soon so as to become established before winter arrives. This is a good time to start feeding the pompon chrysanthemum, also to provide some means of protection from early frost which ruins the flowers. A few stakes driven into the ground, with wire stretched tightly over the tops, will support some heavy paper, old bed sheets, wagon covers, or anything of that nature which may be used as a covering.

Dahlias should be doing well at this season. An occasional dose of nitrate of soda will improve the flower, providing the soil there is very fertile; if not, a good liquid food should be used in connection with the soda. It is also a good plan to thin out the lateral shoots on the plants; this reduces the number of flowers, to be sure, but gives much longer and stronger stems and far better quality blooms.

Flowering spikes should be showing on the fall anemone at this time; an application or two of liquid manure will considerably improve the quality of the flower.

Trees and Shrubs

PREPARE now for any contemplated changes in the shrubbery borders, and for setting out of deciduous trees or shrubs of any kind. While it is still too early to do any actual planting, the ground can be made ready so that when planting time comes there will be no delay.

Take time now to look over old borders or plantings *while the foliage is still on;* you can see now where there is any crowding and can plan properly for any changes that may be desirable. If left until entirely devoid of foliage, you will deceive yourself because the border always looks as if there were an abundance of space when the foliage is off.

It is not yet too late to move evergreens; but the sooner that work is completed the better. Remember to get as good a ball as possible when moving. Therein lies the secret of success.

This is a good time to look up some protecting material for tender evergreens, such as rhododendrons; the common pine makes an ideal protection and arrangements can now be made to purchase the supply you will need later on.

Look to the Orchard

PLANT an orchard this fall, no matter how small. Now is the very best time to study what you really want in the various kinds of fruit and to get your order into the nursery. All fruits can be planted in the fall even better than in the spring, except the stone fruits in the colder sections, but they can be planned for now, and ordered.

Cover crops can again be sown in the orchard. Rye sown at the rate of two bushels to the acre, mixed with a leguminous crop, such as cow peas or crimson clover, or the last named mixed with oats, makes a good crop. A good spring combination is turnips and soy beans; in every case sow thick enough to insure a good stand.

In the Greenhouse

WORK under glass must now be given serious attention. Careless, indifferent methods cause more failures in most things, but this is especially true of greenhouse work where attention to detail counts for so much. Keep a sharp lookout for pests of all kinds, and use preventives frequently rather than waiting until the plants have been weakened by being overrun with insects. Watch carnations closely for green fly; chrysanthemums must be kept clear of black fly or they will not amount to much in November; roses must be kept after to keep green fly and red spider in check. And so it goes! Every plant has its own enemy and one who has learned to fight these successfully has accomplished the greatest step toward success in the greenhouse. It is not hard if you will only take the matter in hand at the proper time, but once entrenched the pests are very hard to rout out. There are many manufactured preparations on the market that are efficient. Use them now.

Vegetables Indoors

THE greenhouse owner misses a great opportunity if he fails to raise some vegetables indoors. Start now.

Beans can be had all winter from successional sowings; cauliflower can be had continuously by sowing every two weeks in small patches; lettuce sown now and forced indoors will come in about the time the outside crop is finished — sow in small patches and at two-week intervals.

Beets and carrots can be easily forced. They do best in solid beds but can be grown very well on raised benches; sow every three weeks for a regular supply.

Why You Should Plant in the Fall

By A. E. WILKINSON, Cornell University

¶ If the home gardener is fully alive to the opportunities, he will not only order his trees in the fall, but he will plant his trees during the fall months.

¶ Fruit trees and ornamentals may be planted with some assurance of success in the fall, especially if the location is thoroughly drained. Thorough drainage may mean a soil with tile or a soil with a gravelly subsoil. Land which has some slope would tend to have sufficient drainage.

¶ The soil must be in "good condition." The meaning of good condition is: thoroughly supplied with humus, properly plowed and cultivated — and it should have been worked a year or two previous with other crops.

¶ In fall setting trees, notice whether the trees are of a stocky, well matured growth, that is, whether they are of a brown appearance with a thick, strong growth. They should not be in any way soft, green, and slender, because the latter are "stripped" trees. The former are thoroughly matured. Stripped trees will give weak, unsatisfactory growth.

¶ Of the many advantages from fall planting, some of the most important are: The roots send out a small growth. Wounds on the roots have a tendency to callus over. The soil settles about the roots, and in every way the trees become established during the warm days in the fall. As the result of becoming established before winter the plants make an earlier start in the spring. *They begin to grow long before others could be planted during the spring.* As they are established and begin this growth early, they generally have a larger root surface and are, therefore, able to endure later droughts much better than spring-planted trees.

¶ It is often noticed that young trees do not ripen thoroughly in the fall of the year, that even along towards frost the growth is green, and sappy, and not well hardened. Trees of this nature go into winter in a soft condition and are nearly always injured by winterkilling. This is often the condition of spring-planted trees.

¶ Trees planted in the fall have a tendency to mature the foliage and stem early, going into winter in a much better condition and suffering less from winterkilling.

¶ Since the weather is, as a general rule, settled in fall, the gardener can do much better work than during the unsettled weather of spring.

¶ The fall of the year offers more opportunity for planting than the hustle and bustle of the busy spring, when all the work of plowing and harrowing and planting the garden needs attention.

¶ In the fall of the year the soil is in workable form; much more so than in the spring, when it is wet and unyielding.

¶ Fall planting facilitates spring cultivation; about the time other people are beginning to dig holes for spring planting, it will be possible to cultivate fall-planted trees.

The ideal way in wall gardening is to place the plants in position when building the wall, thus giving ample soil for the roots and avoiding air holes

Wall Gardens for America — By Fletcher Steele, Massachusetts

REFUTING THE PREJUDICED IDEA THAT THESE CHARMING FEATURES ARE NOT FOR US — WHY THEY CAN BE INTRODUCED INTO OUR GARDENS — HOW TO MAKE THEM AND WHAT TO GROW IN THEM

WALL gardens can be successfully made and maintained in America. It is frequently asserted that in summer our dry air and long droughts, and in the winter the damage done by expansion of freezing water will spell failure for wall gardens here. But these obstacles can be overcome. To be sure we cannot have the identical effects that are possible in the moist, equable climate of England, nor do we want exactly the same. American conditions call for American treatment.

By a wall garden is meant, ordinarily, a wall from the sides of which grow tufted and trailing plants. In making such a garden all the steps should be planned in advance. Select a retaining wall, or a place where a retaining wall can be easily built.

A place on a slope is best where a terrace will add to the convenience and appearance of the grounds, or where it can be completely screened off if it is a too sophisticated element in the landscape. When the place is decided upon, cut away the soil, to the depth of the finished wall on the lower side. The soil which is to be taken away from the lower side of the wall can generally be used to fill on the higher side to make a more or less level area. When all the soil is moved, dig a trench for the wall foundation, the bottom of which should be well below the frost line.

Be sure that the foundation is wide enough. At the bottom of the foundation, a dry retaining wall (one built without mortar), should be at least one third as wide as the total height to the top of the wall. The width may be gradually reduced as the wall gains in height from the bottom. The batter, or slope, of an ordinary retaining wall may be on either side, but for a wall garden the slope should all be on the outer face. The steepest slope on which plants can be satisfactorily grown is four inches horizontal retreat to each foot in height.

After the foundation has been laid as for an ordinary stone retaining wall, the gardening begins. For the wall must be filled with soil and planted as the stones are laid. Failure to do this is responsible for most of the unsuccessful wall gardens. If it is not done it is impossible thoroughly to fill the interstices with soil, and air holes between the rocks are fatal.

In an ordinary dry wall small stones or spalls are used to fill up the holes between the larger rocks. In a soil wall, the holes are all filled with earth well rammed in all the horizontal and vertical spaces and

Just built The small plants are already set in the crevices

The second year. The plants have grown and are conspicuous

joints. Only the best soil should be used. It is a good thing to mix with it well pulverized and rotted manure, five parts soil to one part manure.

But no matter how well tamped the soil may be, our beating rains and winds would wash out much of it unless it be reinforced. This assistance is given by laying sods in with the soil near the wall face, roots outward. They hold the soil in place until the fibrous plant roots can grow sufficiently to bind. By the time this is accomplished, the sods have rotted, to become rich compost.

But it is not enough to tamp soil and sods into all the joints. When the wall is finished and afterward planted, the roots find it very difficult to get a start. As there is no way to fasten the plants securely, severe winds and rains are apt to pull them loose, permitting air to get at the roots, or tearing them entirely out of place. The only way is to set them in their permanent places while the wall is building. Then the roots can be properly embedded in soil and stones laid around them will hold them in place.

When the wall is built up, there should be a hole between the wall and the bank to be retained at least 18 inches wide. This should be filled with good soil, well tamped down, to form a "back" for the wall, and a gold mine for such plant roots as penetrate to it.

If these precautions are followed, the result should be a handsome wall garden providing it is not more than three feet high. This should not be exceeded without special irrigation facilities, except in unusually moist locations. With heavy baths on the upper side of the wall, water will sink down two feet to the plant roots. Watering at the bottom will take care of plants one foot up the side. In a wall higher than three feet, a special provision must be made for watering the plants in the belt between two feet down from the top and one foot up from the bottom. The best way to provide this irrigation is with farm tile.

When the soil back is being set, a line of tile should be laid to extend the length of the wall two feet below the finished grade. All the joints must be left open. At the ends and at intervals of not more than fifty feet between, a T shape tile should be inserted upside down, and the stems brought up to the finished grade for water inlets. At frequent intervals throughout the growing season, the hose should be played into each of the inlets until the long tile pipe is filled with water, which will seep out between the joints and through the wall to the plant roots.

A considerable variety of small shrubs and herbaceous plants will thrive in a wall. In making a selection keep in mind the particular effect desired. In some places it will be desirable to plant quite bushy things that will grow out some distance from the wall face; in others it will be better to keep the surface flat. Here continuous gay color is the thing; there simple grays and greens are better. As a general principle it is well to have a variety of effects in rather broad masses, letting the bushy plants and more vigorous vines cover for twenty feet or so, then using the smaller plants which leave more of the stone work exposed. The planting next the wall at the top and bottom will help very much to get the desired effect. Vines especially, are important. Do not use the rampant growers where pains has been taken in building up the wall with soil, as they will cover everything and the extra care will have been wasted. The one exception, perhaps, is the Roxbury waxwork (*Celastrus articulatus*, the Japanese species, is better), which always looks its prettiest when clambering over a stone wall. But this should be sparingly used.

Wall gardening and rock gardening are closely allied. Copy Nature's methods in planting

The best vine for delicate lacy garlands is the biennial Allegheny Vine (*Adlumia cirrhosa*). As it usually seeds itself, it may be considered among the perennial plants. Bear-berry (*Arctostaphylos Uva-ursi*) half vine, half shrubby perennial, should be much used. Its fine leaves are evergreen, and in time it will drop streamers three or four feet long down over the rocks. Don't lose patience if it does not succeed at once. Sometimes it takes much coaxing. *Leucothoë Catesbæi*, too, has evergreen leaves of particularly good texture and color, with flowers in March. It grows well in stone work, but likes a protected location anywhere north of New York.

The evergreen *Euonymus radicans* and its varieties are too coarse growing for the wall garden. But there is a new *Euonymus Kewensis* with small leaves of a fine green that keeps neatly in place, and promises to be an acquisition for wall gardeners.

Among the small shrubby evergreen plants, none is prettier than the sand myrtle (*Leiophyllum buxifolium*, var. *prostratum* is best), which is covered with diminutive pink flowers in spring and early summer. The Garland Flower (*Daphne Cneorum*) make a somewhat heavier mat of good green with deliciously fragrant masses of strong pink flowers in spring, and scattered blossoms late in the summer. Aaron's Beard (*Hypericum calycinum*) has leathery evergreen leaves which are dark above and whitish underneath with scattering flowers all summer. *Hypericum Buckleyii* is smaller and more delicate, making a fine tuft eight or ten inches high, with yellow flowers from July to September. Evergreen candytuft (*Iberis sempervirens* and *Tenoriana*) accommodate themselves very well to a wall. Some of the wood mosses do very well between the rocks in shady places, but it is not easy to find them in the nurseries. The little plant *Arenaria glabra* looks much like a moss, and is very satisfactory. It has white flowers in July and August.

The low growing evergreen phlox are excellent for wall garden use. *Phlox divaricata*, a very good light blue; *P. subulata*, var. *alba*, white; *P. Stellaria*, lavender, are perhaps the best. It is well to avoid the old-fashioned moss pink, as it usually turns out a vile magenta. *Saponaria ocymoides*, var. *splendens* is an extra good trailing plant, which takes hold quickly and for weeks in June and July is covered with pink flowers. At the same time the best of the small leaved rhododendrons (*R. Carolinianum*) is in flower of the same shade. They should be used together, as the rhododendron does very well on the rocks.

The sedums are probably the best known rock plants, and are worthy of their fame. Golden stonecrop (*Sedum acre*) has yellow flowers in the late spring. *S. stoloniferum* has reddish leaves, and adjusts itself very quickly and picturesquely to the rocks. *S. Sieboldii* makes a pleasant accent in the wall. *S. spectabile*, the pink stonecrop, is more seen than the others, but is the least desirable, as the pink is too assertive and not particularly good.

Butterfly weed (*Asclepias tuberosa*) is somewhat similar in habit, thought very much larger and coarser. In mid-summer its brilliant orange panicles are something of a color problem, but it deserves a place somewhere. The old-fashioned hen and chickens (*Sempervivum tectorum*) must not be forgotten. Looking like a tiny squat century plant, it never fails to interest.

No more delicate yet easily grown plant can be found for the wall than *Dicentra eximia*, with flowers and lacy foliage all summer. The small veronicas, too, are worth trying. *V. rupestris* and *V. repens* are creeping plants with showy flowers, the first blue, the second white, in May and June.

Thrift is an old favorite, and is usually advised for wall and rock gardens. Experience, however, shows that it dies in shabby brown patches, rarely giving the expected satisfaction. *Armeria maritima*, var. *alba* is the best. Neat grass-leaved tufts, like those of the thrift are occasionally desirable. Where a somewhat coarser growth can be used, try common garden chives. It is a nice little plant, and in the flower garden will attract pleased attention that ignorantly scorns it in the vegetable border.

Gypsophila repens is another creeper, with white flowers in July. This reminds me of another member of the family, *Gypsophila paniculata*, known usually by the wretched title of baby's breath. Here, at last, is one plant which we prefer to think of by its latin name, which is charming. Its other popular title, chalk plant, is quite colorless by comparison. It grows rather too large to put in the wall. But planted at the foot its cloud of white flowers makes a most interesting foreground. Sea lavender (*Statice latifolia*) should be used in the same way.

Three plants that are exceedingly important for the spring time are gold dust (*Alyssum saxatile* and its varieties) rock cress (*Arabis albida*, *A. alpina*) and false rock cress (*Aubretia deltoidea*). They are stunning and may be used in quantities. If closely pruned immediately after flowering, gold dust will repay with a second, though more scattered flowering in the early Autumn.

Several of the herbs make good wall garden subjects. Pre-eminent stand the thymes. They are easily grown, are neat and handsome, and have a strong agreeable fragrance. The smaller varieties are best for the wall. Old-fashioned mother of thyme (*Thymus Serphyllum*) is always satisfactory. Rosemary delights by association as much as because of sterling garden qualities. In the North it would rather die than endure our wretched winters, and needs coaxing to pull through. Put it in a sheltered, well drained place. Plant a few waldmeister (Asperula). Try a sprig of it as the Germans do, instead of mint in a julep. Calamint (*Calamintha alpina*) is worth a trial.

Be generous in your use of periwinkle (*Vinca minor*). It is the best of evergreen covers around rocks. Another good trailer is moneywort (*Lysimachia Nummularia*).

Many of the more loose growing plants do nicely in the wall. Coral bells (*Heuchera sanguinia*) is a constant pleasure all summer, as is the Carpathian harebell (*Campanula Carpatica*). If you have a moist spot, forget-me-nots will do finely. The columbines flourish, especially the common American red and yellow variety, which is about the prettiest. Iceland poppy (*Papaver nudicaule*) is a great favorite with the discerning and thrives between the rocks. The various crane's bills should be included, of which the common wild *Geranium sanguineum* is as good as any. Leadwort (*Plumbago Larpentæ*) succeeds in most places, and is well worth a trial because of the continuous blue flowers. The woolly yarrow (*Achillea tomentosa*) with yellow flowers in the summer, is useful and pretty.

Occasionally put in a strawberry. You will be delighted with the way it hangs down the wall. The same is true of the old-fashioned perennial sweet peas (*Lathyrus latifolius*). Be sure to get a white or good pink variety of the latter, as most of them are just off color.

In shady places many ferns and mosses do finely. The most interesting way to do is to collect them in the woods and try them out.

There is one shrub which must not be omitted. *Cotoneaster horizontalis*, planted at the top, will fall in long delicate sprays, to form one of the most ornamental features of the garden.

It is important to build the garden at the right time. The wall might succeed if started in Autumn. But the chances are that the unaccustomed plants would be loosened by frost and wind without the summer's growth in place, and many things would probably winterkill next the cold stones. The foundation should be started as soon as the frost is out of the ground in the spring. After that it is safe to build and plant the upper part of the wall as soon as convenient. It is better to have everything in place before the new growth is completed. Planted at that season, the roots have ample time before winter to get a firm foothold and to bind the loose soil.

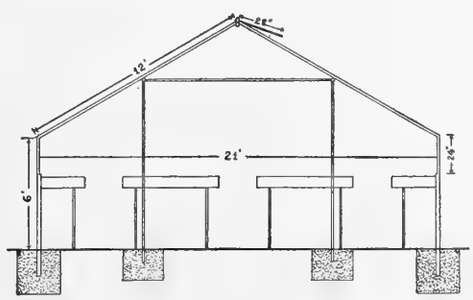
Build Yourself A Greenhouse—By F. F. Rockwell, Connecticut

A MISTAKEN idea as to the cost keeps many persons from trying to put up even a small house. The ready-made patent framed greenhouses, with all the latest devices and niceties of construction, are worth what they cost; but the man who cannot afford one of them can put up a perfectly practical house at a figure that he can afford if he buys his own material and does his own work. A small greenhouse will pay as good dividends as the frames or the garden. Now is the ideal time of year to build.

SIMPLEST KIND OF HOUSE

The simplest type of greenhouse is the "lean-to." It is the cheapest and easiest to put up. It may be constructed against the south wall of the dwelling or some other building. Or it may be built into the veranda. It is often possible to heat a house of this kind with the same heating plant that is used for the home. We have to supply a south wall, the two ends, and the roof. Sometimes the south wall has a row of glass which is desirable, but not necessary.

The walls may be made of either concrete or post-and-board construction. Which would be best to use will depend largely upon how difficult it is to get sand and gravel in your locality. Once done, however, concrete will last "till the cows come home." If concrete is used the wall should be put down at least to the frost-line, and be four inches or more thick above ground. Use more cement in proportion to the sand and gravel than for ordinary walls. A mixture of 1 to 1½ parts cement, 2 of sand, and 4 of gravel or broken stone will be right. For the post-and-board construction posts are put into the ground every four or five feet apart, and the wall built on the outside. Cedar is the best wood to use for the posts, but chestnut or some other local sort which does not rot quickly will answer the purpose. The corner posts *must* be square, and it is better to have the others so. The posts are carefully "lined up"; a layer of boards, preferably tongued and grooved, is put on; over these a layer or double layer of building paper; another layer of boards; building paper; and then shingles or siding.

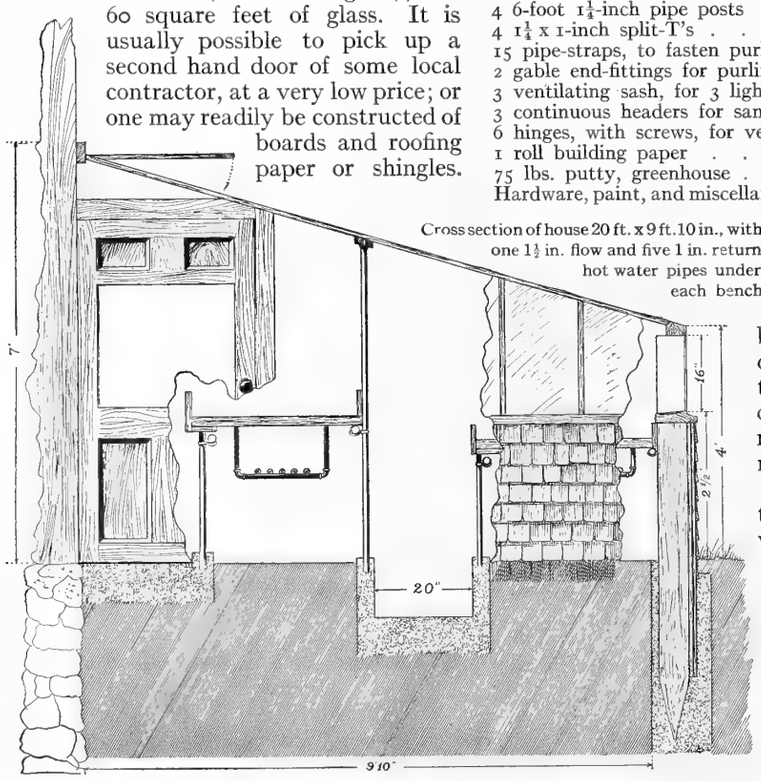


Detached even-span house with pipe post and purlin

On top of the front wall is placed the "eave-plate" or sash-sill which forms the support for the lower ends of the sash bars (the long narrow bars which support the glass). At their upper ends the sash-bars are held in place by the "ridge." The ridge, in the case of a lean-to house, is fastened securely to the wall of the house

against which the greenhouse is being built. If the sash bars for the roof are not over six or seven feet long they will be strong enough to support the glass without any bracing, or "purlines" as they are called, under them. For sash bars longer than that some support is necessary, and the strongest and most convenient thing to use is pipe, an inch in diameter being amply strong for a small house. Second hand pipe is perfectly good for the purpose. At the ridge or peak of the house there should be one or more hinged ventilators to provide for cooling the house on bright hot days. At each end of the house, in place of the sash-bar, an "end-bar" or gable-rafter is used. This has the shoulder for the glass on one side only, and is grooved out on the other so that the glass in the end or gable of the house can fit into it, making a tight, secure joint. The forms of the various kinds of pieces or members used may be seen from the cross-sections in any greenhouse material catalogue.

Let us figure out just what is needed for a lean-to house, twenty feet long and approximately ten wide. Suppose we can get 7 feet of headroom on the wall against which we wish to build. Then we can figure on a height of four feet for the front wall, which will require 6-foot posts, as they should be set at least two feet into the soil. For the front wall then we will require five 6-foot posts; double boarding enough to go from a foot below the surface to $2\frac{1}{2}$ feet up the posts (twice $3\frac{1}{2}$ feet x 20 feet), or 140 feet; 20 feet each of 2 x 4″ eave-plate and 2 x 6″ sill; and ten lights of 16 x 24″ double-thick glass. For the ends there will be required 4 9-foot posts; approximately the same amount of boarding as for the front wall; 20 feet of 2 x 4″ sill; 50 feet of "side-bars" (to hold the glass); and 60 square feet of glass. It is usually possible to pick up a second hand door of some local contractor, at a very low price; or one may readily be constructed of boards and roofing paper or shingles.



Cross section of house 20 ft. x 9 ft. 10 in., with one 1¼ in. flow and five 1 in. return hot water pipes under each bench

For the roof there will be required 20 feet of ridge, 13 10-foot sash bars, 2 10-foot end bars; and 3 ventilating sash. A little may be saved on the ridge by having it sawed in two vertically, as it will support the sash bars just as well and fit more snugly against the side of the house. Get the style of sash bars known as "drip" bars — which means that they do *not* drip. If you get the ventilating sash made the right size you can easily put the glass in yourself. Each sash will require a "header," or cross piece between the sashes, where its lower edge rests.

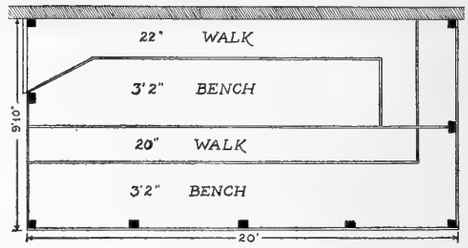
To support the middle of the sash-bars a wooden rafter and wood posts may be used, but a much more convenient and lasting support may be had by getting 20 feet of 1-inch pipe — second hand will do — and two $1\frac{1}{4}$-inch pipe posts six feet long. If two additional pipe posts are secured and placed near the ends of the house they will both strengthen the construction and help make a neat, strong support for the middle bench, to be put in later.

Itemizing these things, and including the glass for roof and the fittings, etc., which will be required, we have the following list of materials. The cost will vary. I have built a house at the figures given here, but they are low, and I was able to get some material second hand.

300 feet of inch boards, for walls	$9.00
9 posts (5 6-foot; 4 9-foot long)	3.00
1,000 shingles, for walls	4.50
6 boxes 24 x 16 in. double thick glass, $18 to	24.00
10 feet 2 x 4 in. ridge	.80
13 $10\frac{1}{2}$-foot drip bars, for roof	3.25
2 $10\frac{1}{2}$-foot end bars, for roof	.75
50 foot side bars, random lengths, for gables	2.50
20 feet 2 x 4-inch eaves plate	1.60
20 feet 2 x 6-in. sill	2.20
20 feet 2 x 4-in. sill, for gables	1.60
20 feet 1-inch iron pipe, second hand	1.00
4 6-foot $1\frac{1}{4}$-inch pipe posts	1.50
4 $1\frac{1}{4}$ x 1-inch split-T's	.50
15 pipe-straps, to fasten purlin to bars	.25
2 gable end-fittings for purlin	.20
3 ventilating sash, for 3 lights, glass	3.00
3 continuous headers for same	.50
6 hinges, with screws, for ventilators	.75
1 roll building paper	2.00
75 lbs. putty, greenhouse	3 00
Hardware, paint, and miscellaneous	$5.00 to 10.00

The posts, boards, shingles, and the building paper may be had at a local dealer's. The other things should be ordered from a regular greenhouse material company.

If you happen to live in a section where many of your friends and neighbors have gardens, it will probably pay you well to put up a larger house and grow extra plants to sell in the spring. For a small practical house of this sort, two good forms of construction are shown in the accompanying cuts. The details of construction are much the same as those shown for the former house already described. Special fittings are made to use in connection with the pipe posts, frame, and supports, and there is no reason why one ordinarily skillful with tools cannot do the biggest part of the work of building a small house himself. In many parts of the house iron may be used in place of the wooden parts I have described. The cost is more, but repairs are eliminated. Before building a house of any size, you should get catalogues from some of the greenhouse companies and make yourself familiar with the different methods of construction.

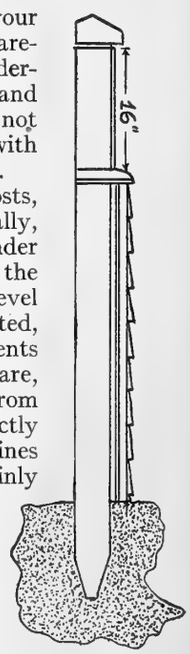


Ground plan of house


Cross section of drip bar

No matter how small your house is, however, plan it carefully in every detail before ordering the material. The plan and list of material above should not be used unless it fits in with your particular requirements.

As you may buy the posts, boarding, shingles, etc., locally, you can get the work well under way without waiting for the other materials to arrive. Level off the site you have selected, and make your measurements carefully. To get the plan square, be sure that the *diagonals*, from opposite corners, are of exactly the same length. Mark the lines for the outsides and ends plainly by stretching stout cord or a garden line to stakes set a couple of feet *beyond* where each corner is to be, so that the points where the strings cross will indicate the exact point where it is desired to have the outside corners of the greenhouse. All the posts should be set in very firmly; the best way is to pour concrete around the bases. Set the two corner posts first and line up the rest carefully with these. The best way is to have the posts a little longer than needed, and saw them off level after they are set. The 2 x 4 inch eave plate can go into place next. And then, leaving just enough room for a light of glass to go in the 16-inch way, fit the 2 x 6 inch sill 16 inches below this,



Detail of side wall

mortising it out carefully to fit snugly about the posts. The bevel or shoulder in the sill should come just even with the outside of the posts, so that the latter will not be in the way of the glass, which may be put in, without any side bars, in a continuous row. The walls may then be constructed, fitting the boards snugly under the 2 x 6 inch sill, and working down toward the ground. Put the ridge in place, being sure that it is very secure and makes a water-tight joint with the side of the house. (If this cannot be secured by the use of white lead, use a strip of roofer's tin.) Then mark off carefully on both ridge and eave the places for the sash-bars. Then start with one end-bar, and nail the bars into place, using *finishing* nails. Try every third or fourth bar with a light of glass to be certain that you are getting them spaced exactly right. The purlin, or pipe, which supports the sash bars does not have to be directly on the middle. In this lean-to, for instance, it comes a little to one side. Ascertain carefully, however, just where it is to come, and mark the bars on the bottom side with a chalk-line. Then, with the purlin clips, fasten the purlin into place. Put the pipe post supports in place, being careful to get them perpendicular and in line, and set the bottoms in concrete. *Do not touch the posts* while the concrete is setting, which will take two or three days, during which time the doors and gable bars may be put in place. All will then be ready for the glass. Put the ventilators on first. In putting in the glass you will notice that each light is slightly curved. Put the convex side up. Put in one complete row at a time, beginning at the eave-plate, and letting the glass come down just flush with the outer bevel. "Work up" a generous supply of putty until it is very soft and elastic. (If necessary add a little linseed oil.) Put on the putty so thick that the glass can be firmly *imbedded* in it, by pressing down hard along each *edge* of the glass. The lights should be lapped slightly —$\frac{1}{6}$ to $\frac{1}{4}$ of an inch — and held firmly in place by greenhouse glazing points. There are several types of these, but I like best the style known as Siebert's. After a complete row of glass is put in, scrape off the surplus putty on the under side. Go over the outside edges of the glass with linseed oil and white lead, mixed to the consistency of thick paint.

One of the secrets in building a house that will *last* is to have the painting done thoroughly, and all crevices and holes filled with paint or white lead, and all joints white leaded. Go over the whole frame carefully after it is put up, before putting in any glass; and again after the glass is put in. Be sure to buy a good paint. If you do not *know* about it, write to your State Experiment Station for information.

In the estimate for material I have not included benching. Two by four scantlings and second-hand or second-grade boards may be used; but as a general rule, the cheaper the bench put up the sooner it will have to be repaired. For a house like the lean-to described, if you can't afford a tile or slate bottom bench, I would recommend concrete for the bottom and sides of the walk, and iron pipe posts and cross-pieces for the benches. Split-fittings, especially designed for making bench-frames, may be bought quite cheaply, and with them such a frame may easily be put up. Then boards are used for the bottom of the bench, and may readily be replaced.

If hot water or steam is used in the dwelling house, the heating of the small greenhouse is an easy matter. Where a hot-air system is used for the house, a small hot-water coil may be placed in the top of the fire-box, and connected with the heating pipes in the greenhouse. Two "coils" of pipe of five 1-inch returns each, fed by two $1\frac{1}{2}$-inch flows, would heat a lean-to, like that described, with hot water. The boiler should be placed as much lower than the piping as is practical — an advantage already at hand when the greenhouse is heated from the house cellar. For the detached small greenhouse it is usually possible, if one will look around a bit, to pick up a small second-hand hot-water heater, and second-hand pipe, which, while not as neat and trim as new material would be, will give satisfaction as far as supplying heat is concerned. The heating system should be installed under the direction of some competent person. A small house, especially if it is to be used only for starting plants in the spring, may be heated by a flue, although this method is not so reliable as hot water. In case a flue is used, the chimney should be built *on top* of the furnace. The flue should then be carried to the other end of the house, or near it, and back to the chimney. This provides a forced draft, as the air in the chimney is heated as soon as the fire is started, and sucks the hot air from the fire-box around through the flue after it. If a flue is used, care must be taken not to have any woodwork come in direct contact.

If you must have bedding plants you need a greenhouse to raise them from cuttings, or you must buy from a florist; and you can't begin to get as fine plants as you could raise yourself. Among this class of plants are coleus, geranium, alternanthera, canna, aceranthus, etc. You will be amazed at the contrast between the flowers and vegetables started out of doors and those sown inside — you get larger flowers, larger and healthier plants — which of course means more flowers — and you get a much longer flowering and fruiting period. Some plants that don't take kindly to transplanting are, of course, best sown in the open ground.

Types of daffodils: on the left, Henry Irving, large trumpet yellow with rather narrow perianth rays. Compare with Empress, bicolor, on the right, which has very massive perianth segments. In the centre is the double flowered favorite Sulphur Pheonix

Better Daffodils For American Gardens — By Sherman R. Duffy, Illinois

AN AMATEUR'S EXPERIENCES WITH SOME OF THE BETTER, NEWER KINDS, AND SOME OLD FAVORITES THAT SHOULD BE IN UP-TO-DATE GARDENS

IT IS a very difficult matter to tell the exact truth about daffodils. Not that there is anything corruptive to good morals in this alluring spring flower, but somehow or other it leads to exaggeration in description in proportion to the state of mind of its observer. Daffodils have an enthralling charm about them. They seize upon one's imagination and take possession. It is related that once upon a time a mother sent her daughter, who was named Proserpine, on an errand telling her to hurry right straight home as fast as she could. But Proserpine saw daffodils glowing golden in a meadow along her way, was beguiled into stopping to gather them, and straightway went to Hades and became queen of the underworld. This story is mythological but the daffy daffodilists are following the trail blazed by Proserpine in going to great lengths over daffodils. Daffodil catalogues begin to read like mythology. I have one before me which offers a single bulb of a trumpet variety to America for $250. The myth would be complete if somebody bought it.

This $250 bulb travels exclusively on its shape. It is not a large flower nor anything extraordinary in color, according to the catalogue description which may be relied upon to omit nothing, but it has a most refined shape. American gardeners haven't reached the point where they will give $250 for a refined shape in a daffodil, one of the reasons being that a very, very few of them could afford to do so and a very very few of the few who could do so wouldn't because they couldn't see where they would get value received. It is a matter of education.

There are hundreds of daffodils bearing different names and different prices which are so much alike that only an expert can tell the differences among them. A half of an inch difference in the diameter of the flower may make a difference of many dollars in price. Does it add to the beauty of the flower? That is a question which is open to debate.

To the daffy daffodilist this half inch is as important a matter as the proverbial half inch on the end of the nose which, theoretically, is the greatest half inch in the world. For example take three daffodils which are almost identical in coloring, Emperor, Glory of Leiden, and Van Waveren's Giant. Emperor is big, Glory of Leiden is bigger, and Van Waveren's Giant is biggest of all. Emperor costs five cents a bulb, less than that when bought by the dozen. Glory of Leiden is fifteen cents the bulb but Van Waveren's Giant is one dollar and a quarter a bulb, and this is the lowest price at which it has been quoted.

Van Waveren's Giant is Emperor exaggerated, magnified a diameter. It is a huge daffodil, the largest of them all. To my mind it is not so beautiful as Emperor. Glory of Leiden, the intermediate in this trio, has a character all its own on account of its upstanding flower and widely flaring trumpet.

Emperor, well flowered, is about three inches in diameter. Van Waveren is five. Glory of Leiden about three and a half.

The principal factors that go to make up a first class daffodil are beauty and grace of form, size, purity of color. One daffodil may be notable for its fine form and graceful beauty but be lacking in size. Another, which is all that can be desired in size, is quite likely to be lacking in gracefulness. And with these two requisites, there may still be something lacking in the way of color. Another factor is the quality of the flower. Some daffodils have much more durability than others. The perianth will last as long as the trumpet in one variety, while in another the perianth divisions wither while the trumpet still is fresh.

However, when it comes to growing daffodils outdoors as garden flowers the factor that is more important than any of these just mentioned is — Will it grow? Has it a good constitution? Will it remain vigorous and multiply? Will the flowers hold their color? Here is where the difficulty in telling the truth about daffodils comes in. Many of the new and expensive daffodils are not good garden flowers. Many others are excellent subjects. In buying them we have only the word of the originators who have grown them abroad. This article, the writer hopes, will encourage those who have tried some of the newer daffodils to send their experiences to the editor of THE GARDEN MAGAZINE in order that a list of good garden daffodils may be made up. A daffodil may succeed admirably in one locality while in another it is a failure. We must learn the likes and dislikes of the bulbs.

The following notes should be prefaced by a statement of soil conditions. The soil in which I grow my daffodils is light, a mixture of black earth and silver sand. The bed has been well worked for several years, manure being trenched in on several occasions. The bed is given a dressing of fertilizer in midsummer after the bulbs have died down. The fertilizer is composed of bone meal and sulphate of potash mixed 100 pounds of bone meal to 25 pounds of sulphate. This is spread thinly and hoed in. Another and heavier dressing is given early in October and hoed in. The bulbs are grown between rows of peonies, the red stems of the peonies forming a pleasing contrast to the blossoms. Later the foliage shades the ripening bulbs.

Here follow some notes on my experience with these gems for spring bloom, and which should be planted as soon as possible now, that is to say plant daffodils just as quickly as you can get them from the dealer. Every day's growth before winter means increased vigor in flowering time.

YELLOW TRUMPETS

King Alfred. The finest pure yellow trumpet daffodil and costing a dollar a bulb! A huge flower of bright, golden yellow. Grows nearly two feet tall. Early. Broad petalled with a diameter of 4½ to 5 inches. Trumpet very wide at the brim with reflex of about a half inch, gracefully rolled back. Edge of trumpet beautifully fringed or crimped. Not reliable in all situations. Prefers rather heavy moist soil. In lighter soils it must be watered liberally and cannot be expected to attain its finest proportions and is not a certain bloomer. A magnificent pot plant. A hybrid inheriting its weakness for moist, heavy soil.

Maximus, the darkest, deepest yellow of the trumpets but is a shy bloomer

King Edward VII, a good representative of the newer poeticus varieties: large, massive with showy shallow cup

with a rather thin perianth but a fine trumpet. The petals are narrow and lack substance. The trumpet is long and narrow but beautifully slashed and crimped at the brim. It is a vigorous grower and makes a fine display. Early.

Henry Irving, a cheap early deep yellow daffodil but a doubtful grower. Does not flourish for me. Good for only one season, then dwindles.

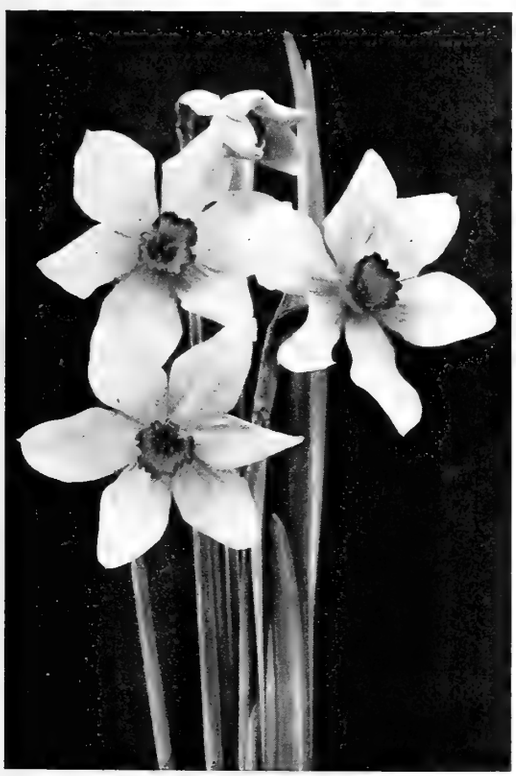
Shakespeare, advertised in some American bulb catalogues as a new seedling which it is not. It is more than ten years old. A yellow trumpet about a week later than Golden Spur, remarkable for the length of the trumpet. Perianth weak in texture and the bulb has not proved of strong constitution with me. Did not increase and dwindled away in three seasons.

Golden Spur, the earliest to bloom, golden yellow with a finely slashed trumpet brim. Absolutely reliable, and a quick increaser. A garden standby.

Emperor, the oldest yellow trumpet in general cultivation and still holding its own as one of the very best garden daffodils. Pale yellow perianth, bright yellow trumpet. Very susceptible to cultivation and the excellence of the bloom is in direct ratio. Varies from an inch and a half to three. Fails only when allowed to become too crowded.

Golden Bell, another handsome and vigorous very early bright yellow trumpet. Flowers have a graceful drooping habit.

Glory of Leiden, a most independent, stocky looking daffodil that always



Conspicuus, the most popular of the Barri group. The cup is shorter than in Incomparabilis

except in heavy wet soil. Will not flourish in an ordinary garden.

Van Waveren's Giant. Midseason. The "prize beef" of daffodils and suggesting the fat cattle and fat chrysanthemums of fall shows. The giant of the trumpet section. A strong, sturdy grower, with blooms like an Emperor magnified. Five inches across. Perianth light yellow, trumpet bright yellow. Leaves very wide and heavy. Attains a height of two and a half feet when at its best, sometimes close to three feet. Towers above other daffodils. Lacks the refinement and graceful beauty of the smaller trumpets.

Cornelia, a very handsome, vigorous growing all yellow trumpet with big flowers and a fine flanged trumpet. Some catalogues call it an improved Emperor, but it is quite different. The yellow is of a pleasing light tone. It grows about eighteen inches tall. A very fine trumpet. Increases rapidly.

Beethoven, a cheap daffodil

Sir Watkin, the sturdy representative of the Incomparabilis type with medium sized cup

seems to point its huge flaring trumpet directly at you. The trumpet seems a little out of proportion to the perianth. Needs to be lifted every two years to be kept vigorous in my garden. Not as vigorous as Emperor and deteriorates rapidly if left to itself for more than two years.

Obvallaris, the Tenby daffodil, an old timer and an old reliable in the garden. Early. Deep yellow. One of the cheapest daffodils but one of the surest for massing in the spring border.

BICOLOR TRUMPETS

Weardale Perfection, another dollar a bulb giant. Worth the price. A huge cream white perianth, and pale yellow trumpet with strikingly serrated edge. About four and a half inches in diameter. Petals very broad and overlap. About twenty inches high with fine foliage but increases very slowly. It is more than forty years old and still high priced on this account. A fine garden plant and a beauty indoors. Well worth growing.

Victoria, more vigorous than Empress with me and a finer flower all around. Petals broad and overlapping, creamy white, with fine bold yellow trumpet.

Mrs. Walter T. Ware, a sturdy bicolor flowering earlier than Victoria. Not as graceful a flower as Victoria but finely formed. Fine for succession.

Madame Plemp, a bicolor blooming at the same time as Victoria but of quite different character. Instead of the smooth overlapping petals it has twisted petals and a longer trumpet. It is very reliable with me and strong grower.

Empress, not reliable for more than a season with me. Begins to dwindle, and bulbs break up.

WHITE TRUMPETS

Mme. de Graaff, one of the handsomest of all the trumpets. Flourishes in sandy soil and increases rapidly. One of the surest spring displays. The one sure blooming big white trumpet within the reach of an ordinary purse.

Mrs. H. D. Betteridge, called an improved Mme. de Graaff. The petals are a little wider, the trumpet a little longer and paler and it becomes more nearly an all white daffodil than Mme. de Graaff. Has grown well for one year for me. A very beautiful daffodil but by no means displaces Mme. de Graaff.

Mrs. Thompson, a smaller and earlier white trumpet than Mme. de Graaff but with me not so robust, although it is reputed to be one of the best growers among these daffodils. The trumpet is more deeply frilled than that of Mme. de Graaff.

WHITE INCOMPARABLES

Lady Margaret Boscawen, this is the place where the daffy daffodilist begins to throw fits. The best description of this magnificent daffodil I think is to say that it is a white Sir Watkin. At least that gives an idea, for most gardeners have grown or seen the fine yellow Sir Watkin. Lady Margaret is a fine big short trumpet with white petals, and a flaring bright yellow cup. It is the most graceful and perfectly formed daffodil I ever grew. It seems to be of strong constitution and vigorous, although I have grown it only two seasons. It is still rather expensive, fifty cents a bulb, but well worth it.

Lucifer, not so devilishly handsome as its name might indicate. In fact to my way of thinking it doesn't quite live up to specifications. Its chief beauty is its long, narrow, fluted cup of orange scarlet, a gorgeous bit of color. The petals are disappointing. They are long and narrow and not of very substantial character. However, the brilliant cup makes it well worth growing.

Lulworth or Lulworth Beauty, another red cup and to my mind a handsomer daffodil than Lucifer although not so bright. It opens pale yellow and fades to a creamy white, the whole flower having a slight droop. The petals are wider than in Lucifer. The cup is bright red although the brightness fades when the sun strikes it. Both Lulworth and Lucifer seem to be good growers.

Irene, representing the Poetaz group, a hybrid of the tender tazetta and the hardy poeticus groups. Very fragrant and hardy generally

YELLOW INCOMPARABLES

Homespun, a yellow rival of Lady Margaret Boscawen and even more perfectly formed. It is almost too faultless. A glorious big yellow flower, with heavy overlapping petals and a widely expanded crown or short trumpet. A striking flower and one of its finest qualities is its durability. It is good for two weeks. I have grown it two seasons and it seems strong and sturdy. It would be a real calamity if Homespun and Lady Margaret Boscawen should prove to be poor garden flowers.

Firelight, is a highly colored little daffodil that is sure to be popular when better known because of the gorgeous mass of color it can furnish in the early spring. The petals are bright yellow and the cup is orange stained and streaked with vivid orange red.

Beauty, is fairly well known but an excellent garden plant. It is a clear yellow with a well formed flower that lasts well. The long cup edged with orange adds to its beauty.

Autocrat, another reliable garden daffodil, all yellow, and well set up. It likes good treatment and the quality of the flowers varies accordingly.

Princess Mary, a very pretty daffodil noted for its flaring orange stained cup but as a garden plant it is of little value. At least, that is my experience. I have to plant the Princess every year if I want a display. This daffodil seems to be dyspeptic by nature, weak constitutioned and prone to die without adequate provocation. It cannot be induced to make a decent leaf growth and no daffodil can survive without good foliage. It is one of the parents of a vast quantity of very beautiful hybrids and it is to be regretted that many of the hybrids inherit the weakness of Princess Mary. It makes a very handsome pot plant indoors.

Sir Watkin, the first of the giant incomparables to become a garden favorite and a thoroughly reliable and altogether satisfactory big yellow short trumpet.

BARRII

Conspicuus, the one sure daffodil I have discovered in this section. Absolutely the hardiest daffodil I ever encountered. Will stand any treatment and give good bloom. One of the "can't kill" plants.

Circlet, beautiful but transitory. Expensive luxury and seems sure to die in the garden. Won't make leaves. A magnificent big round white flower with a flat cup edged with scarlet.

Sequin, another flat cup, sure to die. Several catalogues omit it this year. One of the Princess Mary-poeticus hybrids formerly classified as Englehearti but now included as Barri. Sequin has white petals with a flat plaited yellow cup lying like a gold coin in the centre of the flower. Another weakling is

Cresset, likewise sure to die according to my experience.

These new Barri daffodils have proved a great disappointment. Perhaps they will grow in heavy soil. I should like to know the experience of other daffodil growers with them.

I had a number of Princess Mary-poeticus ornatus seedlings which had reached blooming size and they were showing promise of developing some fine things. A hot two weeks toward the close of May finished them. One notable exception is

Firebrand, a very striking flower, petals cream or ivory white with a glittering fire red cup. It was one of the most brilliant daffodils in my collection. The leaf growth was fairly good and I have hopes this one will survive.

LEEDSI

A class containing some unusually fine garden flowers, in fact I have never had a failure with a Leedsi. They are all white petalled and very much alike in coloring but they have a style and individuality about them not found in other sections. They are the most delicately tinted of all the daffodils and have one great advantage, a delicate fragrance inherited from their poeticus blood. At the top of the list as a garden flower I should place

White Lady, a daffodil of sterling worth and having almost every good quality. It is big but not too big. It is beautifully formed and gracefully carried. The cup is beautifully ruffled and crimped and is cream colored. It has a fine fragrance. It looks delicate but is a robust hardy subject that need cause no worry.

White Queen is larger and much more expensive. It is a magnificent daffodil something after the general style of Sir Watkin. The petals are broad and smooth. The cup is unusually large, flaring and frilled. It is a haughty looking showy flower but slow to increase. It was introduced fifteen years ago but still retails around a dollar and a quarter the bulb. I could be perfectly happy with White Lady if I didn't have White Queen.

Waterwitch is another type of Leedsi. It is one of the most delicately graceful daffodils I ever saw. The flowers have long stems and are rather pendulous, the petals being long and the cup less imbricated than in many others of the class. It is very floriferous. The entire flower is creamy white. Some growers say it has a pinkish tint at sunset or in the twilight although I never could detect it.

Ariadne is a very durable flower and has a peculiar yellowish cast. The cup is especially fine, being large, well expanded and beautifully frilled. It is a fairly large flower and an excellent garden plant.

Mrs. Langtry, I believe, multiplies faster than any other daffodil. It furnishes quantities of flowers making up in quantity what it lacks in quality. Beside White Lady, Ariadne, Waterwitch or other modern Leedsis it is a poor thing indeed.

Minnie Hume, another very cheap variety, is valuable because it is one of the parents of the fine race of giant Leedsi. It seeds very readily and scores of magnificent flowers are the result of crossing Minnie Hume and Mme. de Graaff. Anyone is reasonably certain to secure seed from this cross and it is interesting and well worth while to try to raise seedlings.

POETICUS

To an ordinary gardener, there may be distinctions but precious little difference among the varieties in this class. They are the very hardiest of all the narcissus. The chief distinctions are in the season of flowering, roundness of the perianth, the shade and quantity of red in the edge of the eye, some of the newer kinds being solid red eyed.

I have grown five kinds, King Edward VII, Horace, Chaucer, Glory, and the old fashioned poeticus, early and late. Of these

King Edward VII is the strongest grower and most showy flower. It is much larger than the type and a handsome plant.

Chaucer comes earlier than King Edward, has a larger eye edged with brighter red.

Horace is late. It is a big poeticus and its chief distinguishing mark is a brilliant all red eye.

Glory is another late poeticus something after the style of King Edward VII but with more regular petals and nearer to a circular flower.

POETAZ

Twice I have bought collections of this class but in each case was disappointed with one exception. Poetaz *Elvira* flourishes with all the vigor of a true poeticus, multiplies freely and makes a fine display. *Klondike* survived one year, gave poor flowers and died. Others did not survive the winters of Illinois. It is possible that the soil does not suit them.

DOUBLE DAFFODILS

A reader of this magazine wrote me some time ago asking how to make Sulphur Phœnix and the double poeticus bloom. Frankly, I don't know how. I have come to regard their blooming as an act of Providence. If Providence sends a cold wet spring, they are reasonably certain to furnish good bloom. If Providence provides a warm spring and only fairly wet they are sure to bud and the buds are sure to blast. However, concerning the double poeticus, it does not do well in light soil. Sulphur Phœnix likewise wants a heavy soil but even then is a mean subject about developing its blooms in this section.

The double Van Sion is good for two years or so and then turns green for me.

Grapes In Everyone's Own Small Garden — By J. R. Mattern, Maryland.

QUALITY VARIETIES SELECTED TO FIT THE DIFFERENT PARTS OF THE COUNTRY

ON THE smallest bit of ground you can grow enough grapes of the finest quality to keep your family eating from August, when they first ripen, till after Christmas, and even then the long keeping sorts may not begin to fail. They are particularly suited to home gardens because they may be grown about the edges, on trellises or on the fence, and because proper varieties will give you fruit no matter much how severe the winters or how bad the spring frosts.

Good vines will live and bear longer than their planter lives, and they begin to yield the second or third year. If spring frosts kill the first blossoms most varieties will put out a second bloom. In cold sites plant the grapes on the sunny side of a stone wall or a building, and in your garden anywhere set them so they get all the sunshine there is. Planting can be done in fall or spring, as you like.

A single grape vine may be counted upon to yield from thirty to eighty bunches every season

It is said that grapes prefer a loose and fertile loam but I should not hesitate to plant them in any garden without regard to its type of soil. I would give the ground a thorough working, and feed the plants a little at planting time. The roots of the vines ought to be set shallow — the lower tips no more than six inches beneath the surface. About eight feet apart is the proper distance, though this may be reduced to six feet in cramped

gardens, and increased to ten feet where there is unlimited space.

The amount of grapes that an average family will use will be about one hundred pounds, and this quantity can be grown on about eight vines. If you wish to count the quantity by bunches, each good vine should produce from thirty to eighty of them every season. Eight vines can be grown about the corners and edges of an eighth-acre fruit garden without taking much space from other fruits. In a larger garden, say of a half acre or an acre, where the family likely will give away or sell more fruit than it uses, plant more vines. Twenty vines should produce 250 pounds of grapes. This is a large quantity when it comes to eating them, even over a four month period.

There are grape varieties that reach perfection in every part of America and you should select carefully from the hundreds of varieties available the half dozen or less that will grow best in your garden and yield the biggest crops. You should select varieties also on your own preferences, on the colors you like best, on ripening dates, and above all, on high quality. There is little excuse for planting a low quality variety when a high quality one will thrive just as well in your garden.

The varieties in the following table are selected because they succeed in the sections designated, and because they, in general, are superior to all others. They are grapes suited for eating, not wine making, unless that is incidental. A garden is too small to grow enough grapes to make any wine worth the trouble. Any of these varieties are good, but for planting in your garden I recommend that you select from the list those credited with the highest quality.

Some of the varieties are noted for long keeping qualities. Among these are Salem, Vergennes, Agawam, Brighton, Wilder, Catawba, Lindley, Herbert, and Goethe. The varieties described as having pulpy flesh are better than the tender, juicy sorts for cooking into preserves and butters. For eating raw the juicy sorts usually are most liked. In selecting varieties take a thought as to whether you likely will cultivate and feed and spray your fruit garden as it should be. If you will, you need have no fear of planting the finest possible varieties. But if you have doubts about the care your garden will receive, it might be wise to choose such varieties of grapes as Concord and Moore's Early and Niagara, which are known to yield well even when left pretty much to "hoe their own row."

It may be asked why, when high quality sorts are so desirable in the home garden, the list includes Concord, Moore's Early, Niagara, and other varieties that are marked poor or only fair in quality. The reasons are that in the far South these, with two or three only of the high grade varieties, are the only ones that succeed, and that in any section it may be desirable to plant varieties that will yield heavy crops of fair fruit in rather poor soil, or, as noted above, with little attention. The poor and fair quality sorts named are very vigorous, very healthy, and very dependable bearers.

You will have little trouble getting the right varieties and grades of young vines from nurserymen. Don't let the nurserymen select the varieties for your garden, however, because an examination of many catalogues shows several of the better kinds missing from lists of many firms, and sometimes new and unproved sorts are offered with high endorsement. These home planters should not be made to test at their own expense.

For extremely cold localities in Canada and elsewhere select the ordinary varieties named in the list and lay them down after the fruit comes off each fall. This you should do the first fall as well as later. You can lay down and cover the dozen or so vines in a garden with half an hour's work. The practice is a good one in the colder sections of the Allegheny Mountains, or anywhere that the thermometer drops lower than minus fifteen degrees.

In California few of the native American sorts are grown, and in Oregon they take second place. The bigger, richer European sorts, that belong to another family or type of grape, and that are too tender for growing north of Florida and Southern Texas in the East, are the ones given first place. Among these Tokay or Flame Tokay, Black Hamburg and Thompson's Seedling are the table grapes for the West. Other varieties such as Malaga, Sultana, White Muscat, and Muscatel are grown in commercial vineyards especially in California, because of their superior shipping qualities.

But these European sorts do not succeed in Florida and Southern Texas as well as Meisch and James and Scuppernong. No detailed description of any of these varieties is necessary because there is no doubt about their adaptabilities in the sections named, and there are no other varieties to compete with them. They are of the finest quality and flavor. If it is desired to grow those sorts farther north than middle Florida, it can be done under glass, either with or without artificial heat. If without heat, Black Hamburg is the best sort, but all the others, together with the additional varieties named in the table, grow equally well with heat in a glass house anywhere. Concord, Moore's Early, Goethe and other varieties on the list succeed to a certain extent as far South as northern Florida and in Texas.

If your grapes have been troubled with the grape berry moth, pick off all infected berries and plow under all fallen leaves, either now or in the spring. Spray with arsenate of lead, three pounds per barrel, or one-half pound of Paris green, applied with bordeaux mixture, to which a soap "sticker" has been added. Make the first spraying before the blossoms open, the second as the grapes finish blooming, and the third early in July. The clusters, as soon as set, might also be protected by bagging.

VARIETIES THAT THRIVE, IN GENERAL, FROM TEXAS TO NEW BRUNSWICK, AND THAT BEAR WELL WITH LEAST CARE

NAME	COLOR	FLAVOR	FLESH	GENERAL QUALITY	RIPE	REMARKS
DELAWARE	Red	Sugary, musky	Juicy, tender	Very best	Midseason	With rich soil and good care a heavy cropper
BRIGHTON	Red	Sweet	Juicy, tender	Very fine	Midseason	Best south of Vermont
DIAMOND	White	Fine	Juicy, tender	Very fine	Midseason	Productive, healthy and vigorous
NIAGARA	White	High, musky	Melting pulp	Fair	Midseason	Sure to grow and bear
WORDEN	Black	Rich	Coarse	Fair	Early	Better than Concord
MOORE'S EARLY	Black	Fair	Pulpy	Poor	Very early	Productive on rich soil; best south of Vermont
CONCORD	Black	Sweet	Pulpy	Poor	Midseason	Sure to grow and yield

VARIETIES THAT IN GENERAL ARE SUITED TO CONDITIONS PREVAILING FROM TENNESSEE TO VERMONT. SOME REQUIRE SPECIAL ATTENTION TO YIELD WELL

NAME	COLOR	FLAVOR	FLESH	GENERAL QUALITY	RIPE	REMARKS
LINDLEY	Red	Rich, aromatic	Tender pulp	Splendid	Midseason	Unusual and good flavor
AGAWAM	Red	Rich, aromatic	Tender, juicy	Very good	Very late	Splendid under good conditions
VERGENNES	Red	Sweet	Juicy pulp	Fine	Midseason	Satisfactory bearer
CAMPBELL'S EARLY	Black	Sweet	Coarse	Good	Very early	Don't plant north of Pa.
SALEM	Red	Rich	Tender pulp	Good	Midseason	Dependable bearer
ECLIPSE	Black	Sweet, rich	Tender, juicy	Good	Early	Heavy bearer
BANNER	Red	Sweet, rich	Tender pulp	Good	Late	New variety; plant from Maryland to Tennessee
MASSASOIT	Red	Very sweet	Tender, aromatic	Fine	Very early	Moderately productive
CATAWBA	Red	Rich	Pulpy	Best	Very late	Don't plant north of Maryland
GREEN MOUNTAIN	White	Sweet, rich	Tender pulp	Very best	Very early	The best early white variety
BARRY	Black	Delicate, rich	Tender	Fine	Late	Large and fine
HERBERT	Black	Rich	Coarse	Fair	Early	Hardy and productive
WILDER	Black	Good	Pulpy	Good	Midseason	Good growth and yield
POCKLINGTON	White	Rich, sweet	Rich, coarse	Fine	Late	Reliable in growth and yield

VARIETIES TO PLANT IN SOUTH FLORIDA AND TEXAS — DETAILS AND CHARACTERISTICS NOT NEEDED HERE: Of native varieties, Goethe only. Of Muscadine varieties, Meisch, James, Scuppernong

VARIETIES FOR CALIFORNIA AND OREGON: Delaware, Brighton, Diamond, Green Mountain, Tokay, Black Hamburg, and Thompson's Seedless

VARIETIES FOR GROWING UNDER GLASS ANYWHERE: Without heat, Black Hamburg. With heat, Black Hamburg, Bowood Muscat, Chasselas Musque and Muscat of Alexandria

Lawn Making Made Easy — By H. W. Doyle, Kansas

TAKE ADVANTAGE OF THE FALL SEASON FOR WORKING OVER THE NEW LAWN, AND HAVE THE GRASS ALREADY GROWING BY SPRING

THE lawn is such a common thing. Yet the making of even the ordinary medium-sized lawn is no small man's job. It requires considerable skill and hard labor. The much practiced method of "leveling down" the subsoil excavated to form a cellar is responsible for many woeful failures. A good lawn cannot be established on subsoil, because it is sour, lacks humus, nitrogen and other elements of fertility, and needs the mellowing effects of the weather. It pays to put the subsoil underneath, where it belongs. There is just one way to do it, and that is to scrape off the surface soil to a depth of eight or ten inches; then, when the subsoil comes from the cellar it may be evenly spread out and the top replaced on top.

With large lawns not affected by cellar excavation, or where the subsoil is hauled away, ordinary methods of soil preparation are sufficient.

Nothing makes more for a spotted condition of the lawn than depressions or basins in which water will stand after heavy showers, and in the winter to freeze and winter-kill the grass. Consequently the surface should slope in all directions from the house, and on poorly drained soils, naturally cold and heavy, it may be necessary to tile drain in order to bring out that bright green appearance of the lawn which is so gratifying. Three-inch tile may be laid in the fall three or four feet deep in lines twelve to sixteen feet apart.

After clearing off sticks, stones, stumps and rubbish, and underdraining if necessary, the land should receive its rough grade, that is, graded to the general lines or contour desired.

For small areas the contour should be simple, and more or less uniform and level. A perfectly flat grade is very unnatural, and gives the impression of limited space. A rounded and curved outline is much more natural and beautiful; the convex surface tending to give the idea of increased area, while the concave surface seems to shorten the distance. The most pleasing results are probably obtained by grading to a curved line, slightly convex, running from the base of the building to the outer edge of the lot. A man with a "good eye" can often grade a small lawn without the aid of instruments, but if a craftsmanlike job is desired it is best to use a carpenter's or mason's level, a straight edge, stakes and lines.

Having in mind the general outline to which it is intended to grade, select points over the area and at regular intervals drive rows of stakes. By laying the straight edge from stake to stake one can determine their comparative heights by the use of the level. Fasten near the tops of and stretch the line or string between the stakes and drive each stake so that its top will correspond with the surface line, thus showing the necessary depth to fill or excavate. In some places holes will have to be dug and the stakes driven to the desired depth. Remove the line and level with a team and scraper, cutting down mounds and filling depressions. Then spread evenly over the surface any top soil which may have been taken to one side.

Any soil with the right amount of humus, fertility and drainage will grow a good lawn. The other parts of the garden can be replanted from year to year, while the lawn is a permanent institution. It is well, then, to see that the soil is thoroughly fertilized. A large supply of humus to absorb and hold moisture is necessary if the grass is to withstand summer drouths. Humus can be bought "ready for use," or it can be grown. A very good way is to turn under stable manure at the rate of twenty-two horse wagon loads to the acre in the spring, and, delaying the seeding of the lawn for some months, or even a year, sow cowpeas, soy beans or something similar. Turn these under in the fall, at which time also give a top dressing of thirty bushels of air-slacked lime to the acre.

If it is intended to wait until the following year to seed, allow the soil to stand throughout the winter in a rough lumpy state, so that the frost may have a chance to pulverize and mellow it. Whether the grass is planted in the spring or fall the soil should be thoroughly harrowed and kept in a fine loose condition, allowing no weeds to get a start, until the time of sowing. It is a good plan to harrow in four or five hundred pounds of bonemeal to each acre just before planting.

A good start is essential. Be sure that the soil from the cellar is not left around on the surface. Either remove it or cover with good top soil

Now as to fall or spring planting: there are ardent advocates of each, and no general rule can be laid down. What is best in one section may not do at all in another. The latitude, rainfall, temperature and so on — the climate — are important factors in such matters. It has been my experience in Kansas, and I believe it is true in all places of similar climate and conditions, that lawns are easiest and best established in early fall. Here the hot sun and often protracted rainfall of mid-summer have an injurious effect on young and tender grass plants. They do not soon enough acquire sufficient root systems to penetrate to the more moist soil beneath. Whereas seed sown in very late August or early September is just in time to get the full benefit of fall rains. Under other conditions, where rainfall is sufficient during the months of July and August, one can get as good if not better stand by planting in early spring when the peach trees blossom. If the ground can be prepared in the fall before freezing a very good stand may often be obtained by sowing in the winter on the snow, which washes the seed into the earth to germinate at the earliest possible time in the spring.

The passerby should see a harmonious whole, a pretty picture, rather than have his attention diverted to curious oddities or the disintegrated parts of a whole. Walks and drives should be as few and simple as possible, and the reason for every curve apparent. Have them as narrow as practical convenience and relative proportion with the size of the area will permit. It is well to have them several inches below the surrounding level of the lawn in order that they may be less conspicuous. All trees and shrubs are best planted before seeding as the lawn would be badly cut up by the planting operations.

The final smoothing and pulverizing before planting is very important. First give the area a thorough harrowing, or if the space is too small go over it with a steel hand rake, leveling, smoothing and breaking up the larger lumps. Now roll, going one direction and back again on the same track, then change directions and roll at right angles to the first rolling. Rake again, filling up any depressions made by the roller, breaking up lumps and loosening the surface to a depth of about one inch. Repeat this treatment if necessary to bring the soil into a fine loose condition.

The best grass seed to buy is that known as "fancy recleaned." Don't buy cheap seed, and buy by the pound. Fourteen

pounds is regarded as standard bushel, although good clean seed, containing no chaff, may weigh twenty or twenty-five pounds to the bushel. Lawn grass should form a firm, thick sod, which will lie close to the ground, spread rapidly, and throw out many creeping stems and leaves, so that it will stand close and frequent clipping.

In a general way I advise as the basis of all mixtures: Kentucky bluegrass in the Middle and Eastern states, with its Canadian variety in the North; Bermuda grass in South; and the several varieties of buffalo grass in the Western Plains where water is somewhat scant. Of course there are particular sections where certain special varieties have proven better, and one can readily find them out by noting what his successful neighbors use.

Personally, for this section of the country at least, I prefer not to plant complex mixtures, as I believe Kentucky bluegrass with a one-eighth mixture of white clover does better in the long run. There are many people, however, especially in other parts of the country, who prefer to plant the mixtures, with a view to getting quicker results and because of the varied conditions of shade and moisture existing upon the lawn because of trees, shrubs and architectural objects. Some of the various other grasses used in combination are red top, Rhode Island bent, creeping bent, the fescues, etc. The leading seedsmen have special lawn mixtures put up for special purposes, and their use saves bother.

Where Kentucky bluegrass and white clover only are sown they may be used at the rate of four bushels of bluegrass and two pecks of white clover to the acre, or one quart of bluegrass and one-fourth pint clover to each 300 square feet. Bermuda grass is generally propagated by cuttings or small roots placed in rows several inches apart, which finally grow together. Buffalo grass seed is not now available on the market in commercial quantities and it is necessary to establish a lawn by turfing.

Mixtures may be sown generally at the rate of 3 to 5 bushels to the acre. For sunny areas some people recommend the sowing of two parts (by weight) Kentucky bluegrass to one part red top, and add a peck of white clover to this combination. Others substitute Rhode Island bent or creeping bent grass in place of the red top. Rhode Island bent, creeping bent, red fescue and sheep fescue are said to be desirable as shade grasses. A general mixture for all purposes, which is well recommended, consists of "one-third Kentucky bluegrass, almost as much red top, with Rhode Island bent, creeping bent, sheep fescue, red fescue, and a little sweet vernal grass to give the lawn a pleasant odor when cut."

A still day is best for sowing as one can more easily place the seed where it is intended to go. Divide your seed in half and sow in swaths, first in one direction and then at right angles to the first sowing. This will help to avoid leaving bare spots. Take your time, swinging the hand low in a semi-circular motion and allowing the seed to escape rather freely between the slightly separated fingers, principally from the upper portion of the hand. Now rake it in very, very lightly. Remember that grass seed is small and has a very low percentage of germination as it is, and that if covered too deeply it will rot in the ground. After raking give a good rolling.

While turfing is not often the best way to establish a lawn it is desirable on banks or terraces. It is merely the transplanting of old sod from one place to another. Cut the edges of pieces about a foot wide by three or four feet long, run a spade underneath the pieces and roll them up. Transport them to the place it is intended to turf and hold in position with pegs. The soil below should be loose and the turf laid evenly and thoroughly tamped and pounded into contact with it. Watering often is a necessity.

It is worth while taking pains to get a good lawn because it is the basis of the garden picture. Keep the centre open to get distance

I am never in a hurry to make the first cutting of newly sown grass, and like to wait until it has grown to a height of, say, six inches. Usually, when fall sown, it is better not cut until the following spring. For the first cutting, instead of a regular mower, use a scythe or sickle and cut it to a height of about two inches. After that, every week or ten days, or longer in drouthy weather, mow it again — often enough to keep it at a height of about two inches. After the first cutting allow the clippings to lie where they fall, unless they are unusually long and unsightly. A dull cloudy day is best for mowing.

Persistent rolling, especially in the early spring, is good for the lawn. It firms the grass plants into the soil, makes a smooth even surface and tends to make a larger supply of water available to the plants through capillarity. There are not many times during the year when watering must be resorted to with a properly prepared lawn, but in times of extended drouth, or on porous, quickly drained or sandy soils it may be well to give waterings as often as once a week. When you water, water right. Frequent and light surface sprinklings are of little value, for they cause the roots to habitually seek the surface few inches for moisture rather than go down to the lower layers of soil. Lay the hose on the ground and let the water flow from it on one spot for an hour or more, and then move to another spot. Do this continually, day or night, cloud or sunshine, until the whole lawn has been covered.

Grass, like all other plants, takes fertility from the soil, and eventually it is desirable to give old lawns a dressing of some fertilizer. Well-rotted stable manure is effective though unsightly. It may be applied in the fall after the ground freezes, allowed to lie all winter, and the coarse material raked off in the spring. Finely ground bone meal and sifted wood ashes of equal parts in weight applied to the lawn in the spring at the rate of one ton to the acre is another good dressing. Sometimes nitrate of soda in solution is used, applied at the rate of 500 pounds to the acre, each pound dissolved in forty gallons of water. It is better to make several applications of this at short intervals rather than put it all on at once.

To keep up a fine uniform texture it is often necessary to reseed parts of a lawn. This may be done by simply sowing the seed on the spot to be repaired, lightly raking it in, and rolling. If a blank develops weeds will creep in, and they are often troublesome to get rid of. Dandelions, dock, plantain and crab grass ought to be dug up root and all. This and the regular clipping should keep the lawn fairly clear of weeds. Ants and grubs usually fight shy of a lawn that is frequently rolled. Neither does the mole delight in a tightly packed soil, although if he gives trouble the trap is the only ready means of control.

The essential tools required in maintaining a lawn are the mower, roller, rake and hand sickle to get in the corners, around trees and the edges. It is good policy to buy a hand mower that will cut at least a sixteen-inch swath, while those for large areas may be run by horse or steam power and have a much wider swath. Three hundred pounds is all one man wants to handle in a roller. Do not use the ordinary steel pronged garden rake to tear up the grass. Buy a lawn rake, one with arched teeth.

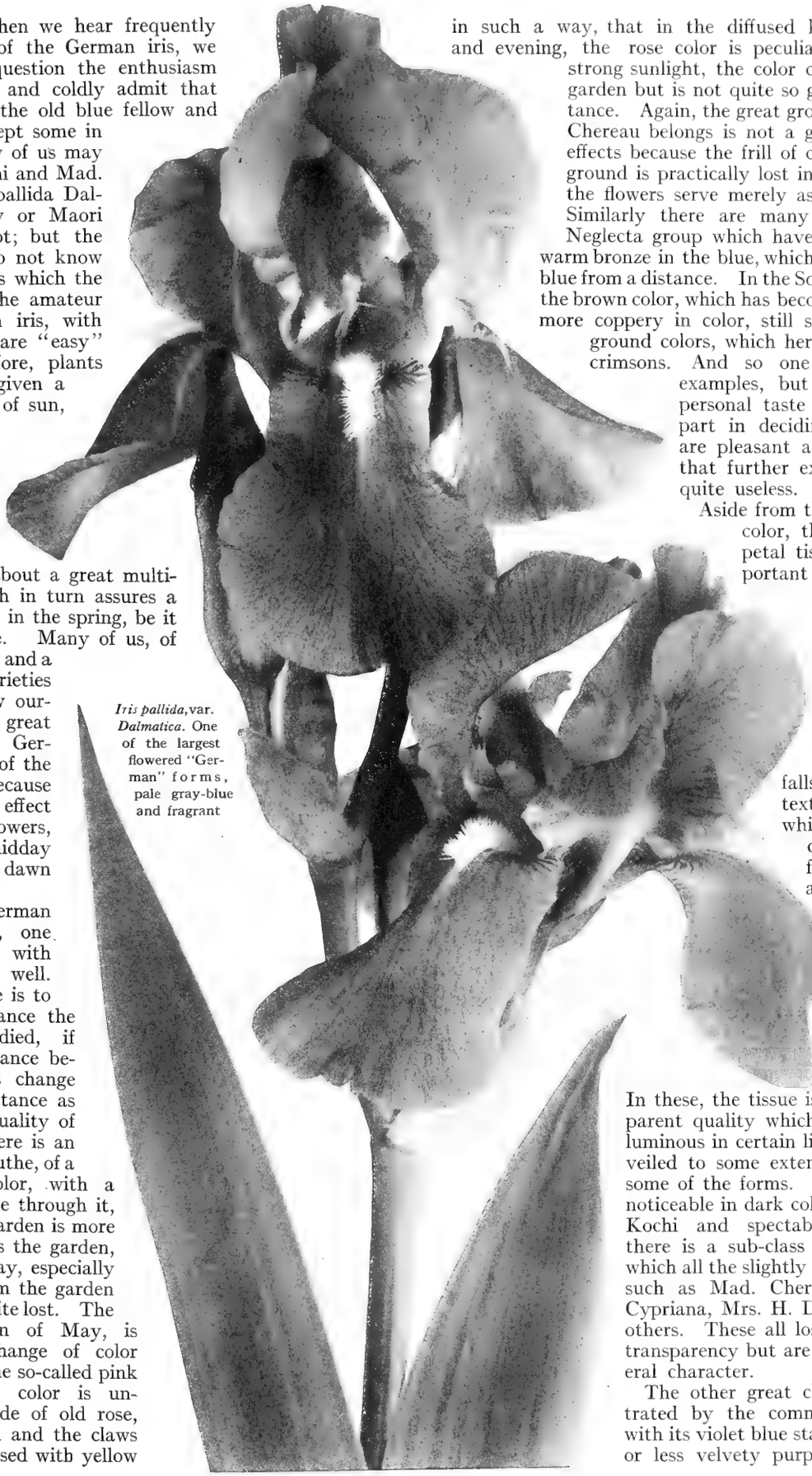
Using German Iris for Garden Effect — By B. J. Morrison, Tacoma Park, D. C.

SELECTING KINDS TO FIT THE SPECIAL SITUATION — HOW DISTANCE MODIFIES OR CHANGES THE EFFECTS OF MINOR COLOR MARKINGS

EVEN to-day, when we hear frequently of the beauty of the German iris, we are likely to question the enthusiasm of the speaker and coldly admit that we have always loved the old blue fellow and that we have always kept some in our gardens. Some few of us may add that we know Kochi and Mad. Chereau, Florentine or pallida Dalmatica, Queen of May or Maori King or some such lot; but the great majority of us do not know the range of possibilities which the German iris offers to the amateur gardener. For German iris, with their immediate allies, are "easy" plants and are, therefore, plants for everyone, because given a fairly good soil, plenty of sun, shallow planting and a thorough division when crowding commences, they will flourish as the proverbial green bay tree.

This very vigor and ease of growth brings about a great multiplication of roots, which in turn assures a wonderful sheet of color in the spring, be it late May or early June. Many of us, of course, with tiny gardens and a passionate love for varieties of flowers, do not allow ourselves the luxury of great masses of many plants. German iris should be one of the favored exceptions, because of the marvelous garden effect of the mass of delicate flowers, either in the full sun of midday or in the softer light of dawn or evening.

In studying the German iris for garden effect, one should choose varieties with color that will carry well. Moreover, if the picture is to be seen from any distance the color should be studied, if possible, from that distance because many iris colors change quite as much with distance as flower colors do with quality of light. For example, there is an exquisite iris, Mrs. G.Reuthe, of a delicate pearl gray color, with a wonderful feeling of blue through it, which near by in the garden is more than charming. Across the garden, this becomes a dirty gray, especially in strong light, and from the garden entrance the color is quite lost. The popular variety, Queen of May, is another example of change of color effect. This is one of the so-called pink irises. The underlying color is undoubtedly a lovely shade of old rose, but the falls are veined and the claws and style-arms are suffused with yellow in such a way, that in the diffused lights of morning and evening, the rose color is peculiarly browned. In strong sunlight, the color carries well in the garden but is not quite so good from the distance. Again, the great group to which Mad. Chereau belongs is not a group for distance effects because the frill of color on the white ground is practically lost in the distance and the flowers serve merely as tiny white ones. Similarly there are many varieties in the Neglecta group which have an undertone of warm bronze in the blue, which serves to dull the blue from a distance. In the Squalens group also, the brown color, which has become more ruddy or more coppery in color, still serves to dull the ground colors, which here are yellows and crimsons. And so one might multiply examples, but the question of personal taste plays so great a part in deciding what changes are pleasant and what are not that further examples would be quite useless.



Iris pallida, var. *Dalmatica*. One of the largest flowered "German" forms, pale gray-blue and fragrant

Aside from the matter of pure color, the texture of the petal tissue plays an important part in the iris effect in the garden. Roughly speaking, from this point of view, iris may be classified into two groups; those in which both standards and falls are of the same texture and those in which the textures are different in the different sets of perianth segments.

The first group is well illustrated by such species as flavescens, pallida Dalmatica, florentina, Kochi and so on. In these, the tissue is of a very transparent quality which becomes almost luminous in certain lights but which is veiled to some extent by pigment in some of the forms. This is especially noticeable in dark colored selfs such as Kochi and spectabilis. Then, too, there is a sub-class of this group in which all the slightly veined selfs come, such as Mad. Chereau, Bridesmaid, Cypriana, Mrs. H. Darwin and many others. These all lose just a little in transparency but are of the same general character.

The other great class is well illustrated by the common German iris with its violet blue standards and more or less velvety purple falls. An ex-

treme example is Victorine, in which the standards are white delicately splashed with purple and the falls are pansy purple, almost of pansy quality in texture. Members of the Variegata, Squalens and Amœna groups are likely to be of this nature and are valuable for their contrast of colors rather than for any particular transparency.

A rather pleasant advantage may be taken of the degree of transparency of the petal tissue by arranging the plants in certain ways within the garden. Varieties with similar texture throughout and with considerable luminosity from delicacy of color are more attractive if they are planted in some portion of the garden where light may shine through them. Planted against a background of higher perennials or shrubs, it is often impossible to stand so that such an effect can be noted, but by planting in a more central garden bed the light can play from all sides and yet the flowers will have the background of the adjacent beds. On the other hand, the two-textured varieties, save those of the Squalens group which need illumination, gain somewhat in richness if they are planted against some great background of green, so that the line of sight follows the direction of the light which illumines the flowers.

The collector will find abundant interest in the German irises, which give a wonderfully fancy border

As may have been guessed before this, light plays an important part in the effects made by iris. From the obligate cultural requirements, there must be sun in the parts of the garden devoted to iris, yet within that sunny area one has considerable opportunity for placing iris so that certain light effects can be enjoyed. This is especially true in the morning and evening. Pure, clear blues such as we have in pallida Dalmatica, Celeste and similar forms, look equally well in shadow and in sun; all of the yellows and yellow-and-browns look better in full sun, where they make very glowing color. The bronzes and copper reds improve with full sunlight because the yellow in the color is intensified and the tendency to brown is overcome. All of the pinks, in which there is any yellow, look better in sun than in shadow. This is true of Queen of May, Miralba, Rose Unique and others. On the other hand, pinks like Mrs. Allen Gray, in which there is an undertone of blue, look well in shadow where the blue enters into the shadow effect and leaves a clear pink. The yellows in which there is a pink caste are equally unpleasant anywhere. Darius, Princess of Teck, and Rigoletto are good examples of this class and are distinctly poor in color. Of the remaining purples, purple blues, and red violets, personal taste must decide. On the whole, the more red in the color, the more sunlight is possible for good effect, and the more blue in the color, the more pleasant the color in shadow. For example, Edouard Michell, a wonderful new hybrid of rosy plum color, looks well in either position but is a little more sparkling in the sunlight; on the other hand, Kochi and spectabilis, dark claret varieties, are both a little better in shadow, as strong light gives a slightly faded feeling to the color. The matters are purely relative, however, and often may be modified by the plant next to the iris.

The matter of neighboring plants is no small question. After the passing of the flowers, iris maintain a fairly good appearance through the season. Members of the Pallida group have noticeably fine foliage. Unlike other plants, iris will not tolerate crowding neighbors, useful to cover up any shabbiness of summer dress. They will survive, of course, and flower sparingly, but they are not the iris to be desired. Many plants can be used, however, and often wonderful effects may be had with the colors. In a friend's garden, *Phlox divaricata* was planted so that it formed a mass just below the delicate pink iris, Mrs. Allen Gray. The blue of the phlox absorbed, in visual effect, the blue cast of the iris and left a clear pink color. This is quite similar to the action of lightly cast shadows on the same variety. Then, of course, we have the time-honored custom of combining pallida Dalmatica with *Hemerocallis flava*. The orange colored *Hemerocallis Dumortierii* is too strong in value for pallida Dalmatica but is very effective with some of the darker blue purples as some of the Cypriana varieties, or Neglecta varieties such as Perfection. Another charming combination noted in the same garden is flavescens, a delicate sulphur-colored species, with one of the low Veronicas as *V. amethystina* or *spicata*. This iris looks well near pallida Dalmatica but often passes its best bloom just a few days before pallida. *Iris spectabilis*, a rich and purple self, Kochi, a similar one, and the varieties of Florentina bloom together and open the season of German iris in May. The color contrast is somewhat violent when they are combined, and they are best used separately. The globe flowers (Trollius spp.) all look well with spectabilis, especially the darker orange kinds. And so combinations might be multiplied. There are so many plants in flower with the German iris that materials are not hard to find. Perhaps on the whole it is safest to avoid pink flowers of any sort in the garden, at iris time, especially near any varieties of the pink or claret color. Haunting recollections of late Darwin tulips like Clara Butt and Gretchen near Florentine or Mrs. G. Reuthe are persuasive but dangerous in the garden whole, which must contain many brilliant yellows and red violets. White from Stellaria, *Phlox subulata*, Cerastium, Iberis, and Arabis is always safe; soft lavenders from some of the varieties of *Phlox subulata* and *Phlox Stellaria* are good; Mertensia, Pulmonaria, *Philox divaricata*, *veronica gentianoides*, *Omphalodes verna*, Myosotis, *Veronica spicata* and *amethystina*, all give good blues and related purples; yellows we can get from late tulips such as the exquisite retroflexa, Mrs. Moon, Miss Willmott, Prince of Orange and so on, also from various ranunculus, trollius, *Aquilegia chrysantha*, Hemerocallis, *Alyssum saxatile* and such plants. Since we are keeping fairly close to complementary colors, arrangements are more or less inevitable. The rose and yellow, copper, and

Madame Chereau white, edged blue

bronze-colored irises are the most difficult to handle in combination, but since they all appear best in strong sunlight we have that saving factor in working out our color scheme. Then, too, gradations can be played within the groups leading them over to the safer colors.

Aside from these matters of garden effect, the big German iris family offers a wealth of individuality to the garden lover who knows his plants very intimately and makes the most of their personalities in his garden. There is, of course, a wide play of color. To the Pallida group we turn for pale blues and blue lavenders, and of late for fine pinks and clarets. The flowers are, almost without exception, unveined selfs of very delicate texture. The blood of Cypriana, a near relative, appears in the veined falls of some of the hybrids. Pallida Dalmatica is the favorite pale blue; Celeste, Juanita, and Albert Victor are good; Queen of May, Rose Unique, Her Majesty, Trautlieb, Lohengrin, Mrs. Allen Gray, Surprise are all good pinks and near pinks, Mad. Paquitte is an excellent claret and Edouard Michell is a wonderful new hybrid showing the waved margin characteristic of Mad. Chereau rather than of the Pallida type. Earliest of all the groups is the old germanica group together with *Iris Florentina*. Here Kochi (syn. atropurpurea), Purple King, and spectabilis are excellent dark red purple selfs. Amas (syn. macrantha), Kharput, and Siwas are splendid two-colored varieties. Among the Neglecta varieties we have the fine new Perfection, light and dark blue purple with showy orange beard; Miss Maggie, silvery lavender and rose; Wagner, lavender and lavender violet, small and dwarf but valuable for late bloom; Sappho, Cythere, Frederick and many others. In the Amœna section, we have the beautiful Victorine and Thorbeck, with white standards and deep purple falls; the exquisite Comte de St. Claire, Mrs. H. Darwin; and the new Rhein Nixie. Best of all in the Plicata section, is the old and well known Mad. Chereau and Bridesmaid. The Squalens group gives us Jacquesiana (syn. Conscience) and Dr. Bernice, similar flowers with old gold standards flushed with crimson and dull crimson falls; A. F. Barron with queer bronze standards and dark falls, and Miralba which nearly approaches old rose.

For pure yellows we turn to the Variegata section which gives us aurea and Mrs. Neubronner, together with the late white Innocenza. Here too, are the old favorites Honorable (syn. San Souci), Gracchus, Darius and Maori King; and besides the old, a group of splendid new hybrids. Perhaps best of all is Iris King, a cross between pallida Dalmatica and Maori King, with large flowers, rich yellow standards and crimson falls, bordered yellow. Here too, comes Mithras, similar but without the yellow border on the falls. Nibelungen repeats the same scheme with a dull olive caste over the standards. Pfanenange is reported similar with more purple in the falls. It has not flowered with us as yet. These last two please our fancy but they are unpleasant to many because they are not brilliant and sparkling in color. And as always, personal taste must be the ultimate judge in matters of this sort.

Then aside from the strict germanica groups of the nurserymen come some valuable related species with their varieties. Flavescens is an indispensable sulphur self; Florentina and its varieties give wonderful gray and lavender whites; albicans Princess of Wales is a fine dwarf white; lurida a showy red copper. Then too, are the closely related Intermediates and Crimeans which prepare the way for the great Germans which follow. Of the Intermediates, Walhalla and Ingeborg are favorites. And among the pumilas and Crimeans the clear colors are best for garden effect although the queer green yellows are charming in themselves and well worthy of a place for themselves.

Victoria veined falls with self standards

Good sized individual clumps of one variety make striking effects in the flower garden. *Iris pallida*, var. *Dalmatica* at the Country Life Press Gardens

But from all of this, it is more than evident that what will please one will not please another. For me, there has been the great collection of a friend where I might study and question to my heart's content. We do not agree, this friend and I, on many things, and some third person might object to our choices in any case. So for each one it is well to visit some large iris collection in bloom whether in the garden of a friend or at some of the nurseries, of which there are several in this country which have exceptionally fine collections, and then choose those plants which most suit his fancy.

The planting time for the German iris is either fall or spring, or the plant may be lifted and divided just after they have finished flowering; indeed that is the ideal time for propagation. Transplanting in early fall — September and October — offers many practical advantages too, because following so closely on the summer's pageant of color the garden's effectiveness is still well in mind and plantings can be carried out with a fuller realization of what the final results will be next year. Indeed the iris, like the peony, is better seen to at this time of year than in spring.

BOSTON 1914

Society of American Florists and Ornamental Horticulturists

BOSTON 1914

IMPRESSIONS GATHERED FROM THE THREE EXHIBITIONS — SOME PLANTS COMPELLING NOTICE AND WORTHY OF TRIAL — ARRANGEMENTS FOR THE GATHERINGS OF 1915

THERE were three exhibition centres of interest for the gardener in connection with the thirtieth annual convention of the Society of American Florists and Ornamental Horticulturists in Boston, Mass., August 18 to 21. Each had its own special character and served a different purpose.

From the larger viewpoint of latent interest to the great body of amateur gardeners and the general public the ten acre Convention Garden, in the Back Bay Fens, was the most notable because of the permanency of actual growing plants. In Mechanics' Hall was a "trade" exhibit, comprising commercial plants for the decorative florists' trade and the appliances and sundries that enter into the production of plants and the ultimate handling of the product, and also the display under the direction of The American Gladiolus Society.

In Horticultural Hall, the Massachusetts Horticultural Society had a great display of flowers in season — which resolved itself largely into a display of gladiolus — two exhibitors, W. Sim and B. H. Tracy, between them completely filling the available space in one large hall. Here let it be noted that the present year has been generally most favorable for the development of the gladiolus, and the New England growers had wonderfully fine material to stage in quantity. But they had no monopoly on quality, for A. Cowee and T. A. Havemeyer from elsewhere had displays impelling attention. Messrs. T. A. Havemeyer, C. F. Fairbanks and T. Cogger each received awards in the open classes for this flower. If never before the gladiolus has assuredly come into its own this year, and has ably demonstrated its worth as the garden standby for August, whether for outdoor effect or for cutting. The abundant, seasonal rains have given ideal conditions, and growths of even six feet (too large indeed) have been told about!

Turning now to the impressions gathered from these combined displays, a few among the host of varieties seem to stand out preeminently — which is not to be understood by any means as suggesting that any not named here are necessarily inferior; our purpose being rather to convey to the reader the "crystallization of impressions" of the various displays. Among them are naturally well known names. Probably, as the one best of all for general all round use, America would be the selection — strong, massively flowered, delicate clear pink, it is a flower that fits in to any purpose. In yellow, Canary Bird; in blue (really purple, however) Baron Hulot — and those two, be it noted, make a splendid combination; for bright salmon, Dawn, with its wonderful luminous quality, with Mrs. Francis King on a more intense or deeper general tone of color; Hollandia, a "terra cotta"; Schwaben as a delicate, yet rich, cream yellow.

Among other worthy kinds sown in much smaller numbers, we must name Badenia, a "pale blue" or deep blue-lavender; Magnum, pale delicate lavender; Panama and Niagara, now fairly well known; Pink Perfection, perhaps well described as a lighter Dawn; the richly colored Mrs. Frank Pendleton, recalling forcibly an old-time show pelargonium; El Capitan, pale yellow and, as shown here, with solid spikes of remarkable length. Orange Glory, the latest addition to the frilled "Glory" family, has an attractive color with the characteristic form of flower that marks that group.

Among the white flowers Europa made the greatest impression on the eye, but the growers agree it needs more water than most other varieties.

Mrs. A. H. Austin and Mrs. Francis King offered prizes for the decorative uses of the gladiolus, and in each case, Mr. Cowee won, showing effective baskets and corsage arrangements. Eugene Fisher was awarded the Gladiolus Society's Award of Merit for a set of new seedlings not yet named or introduced.

The growing exhibits in the 10-acre convention garden could well have been put into a much smaller area and would have gained considerably in effectiveness thereby. The exhibits comprising this garden will remain on the ground till frost comes and necessarily show changes from time to time. Among the more notable plants was a violet-blue petunia, Velchenblau, of distinct merit and pure deep color; a maroon flowered form of *Salvia splendens* may or may not be quite new, but it had a decidedly "different" appearance. Several varieties of *Aconitum Napellus* demonstrated the great value of this fine blue flower at this season. They came from the Mount Desert Nurseries and showed a range of form from a dense larkspur like habit (var. *Meilichoferi*) to a free branching, loose panicle of which the best was named *acutum*. A more compact yet graceful form, was seen in Sparks' variety (Farquhar), deep indigo blue; and from the same source the splendid new lilies myriophyllum, Sargentæ and the older Henryi, Cinnabar yellow, that best of all lilies for August flowering. An unnamed snapdragon, of fine pastel pink shade, was from two sources (Fletcher and Sims.) Delphinium Capri, likened to a pale azure belladonna, was also noted (Eastern Nurseries).

A few striking kinds of canna are: Firebrand (Vaughan), glowing deep red, green foliage, with large individual flower; Panama (Boddington and Conard & Jones), light red edged faintly with yellow, dwarf and sturdy. And from the last named also Colossal, a giant orchid flowered, dark orange; Kate F. Deemer, medium pale yellow; William Saunders, dark red, bronze foliage; Meteor, brilliant dark red, green foliage; Gigantea, deep pink; Mrs. A. F. Conard, light pink.

Of geraniums, only a few are on view: Maryland (Vincent), a good free flowering, short jointed, dark scarlet semi-double; Everblooming Scarlet, large scarlet, single (Manda); Paul Crampel, dark red single (A. N. Pierson).

Of decided interest to the amateur bothered with the problem of watering, was the Skinner Irrigation Company's new automatic irrigating device. A water driven motor (using the same water as is being distributed later) turns a length of pipe fitted at intervals with special nozzles) over any desired arc and back, at any desired speed. In this way a central line of removable pipe can cover with water any ordinary lawn, or vegetable garden with a regular distribution of artificial rain.

The next convention will take place in San Francisco, August, 1915. President, P. Welch of Boston; Secretary, John Young, New York.

The usual summer meetings of the "special" societies were held during the convention week as follows:

Sweet Pea Society. Although no definite action was taken on the place of next meeting, an invitation was presented from Newport, R. I., and the probabilities are that the summer show of 1915 will be there.

Carnation Society. Annual convention and exhibition to be held at Buffalo, N. Y., January 27 and 28, 1915.

Gladiolus Society. Annual meeting at San Francisco, August, 1915. The election of officers resulted: President, C. F. Fairbanks, Boston, Mass.; Secretary, H. Youell, Syracuse, N. Y.; Treasurer, A. E. Kunderd, Goshen, Ind.

Rose Society. After some discussion on an invitation to meet at Buffalo, N. Y., for the slated annual exhibition, the matter was referred to the executive committee for decision later on.

UNDER GLASS

Flowers Most Easily Grown From Seed

By W. C. McCollom, New York

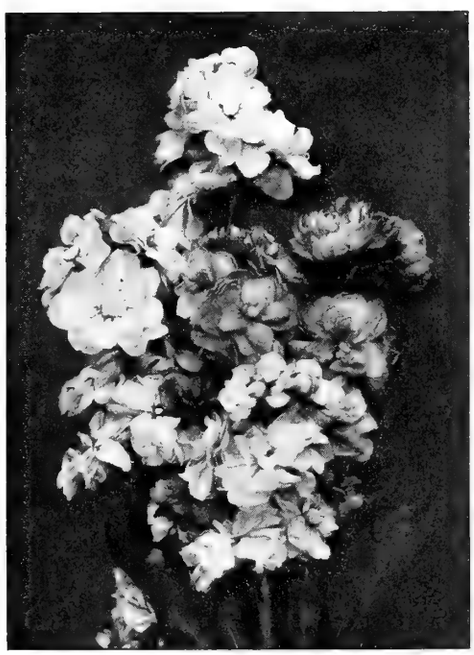
EVERY person owning a small greenhouse is anxious to have something that, not costing much, will add to the variety of flowers that can be procured from the house. A great many garden flowers can be forced in the greenhouse but they require close attention and skilled cultivation, and this is just what the beginner tries to avoid. He is seeking something that is not exacting, which can be depended upon to flower even though here and there a little bit of neglect crops up in their cultivation.

The "rough and ready" nature of the plants named below makes them popular; but their greatest asset to my mind is the fact that they fill in well when a person finds that he has room for more, or where, through the finishing of crops or other causes he wants something that will produce quickly and which does not have to be thought out and provided for a year in advance.

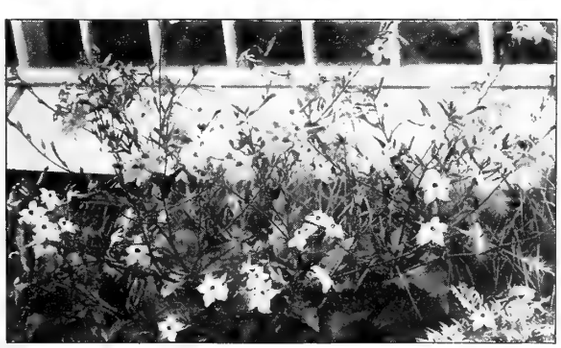
There is no finer flower of this type anywhere than the dainty, chaste, and delicate little baby's breath (*Gypsophila elegans*), a garden annual which for cutting purposes is unsurpassed. A continuous supply of flowers can be had all winter by sowing seed every two or three weeks. I usually start sowing seed about October 1st and make a point to sow it every three weeks during the entire winter. Not much need be sown at one time — a seed pan will be an abundance for ordinary needs. Sow the seeds thinly and water carefully until they are large enough to handle, when they can be transplanted into boxes or directly into the greenhouse bench. A night temperature of 45 to 50 degrees suits them best. Plant the seedlings about four inches apart each way and have a good rich soil. Use almost one half sifted cow manure in preparing your soil. Plant just enough of the seedlings each time to supply your needs until the next sowing comes into flower. The plant is very frail and delicate, and care must be taken in watering. A few strings run along the rows will serve to support them, although I have always got along without them. After the flowers are cut the roots can be torn out and the space utilized for something else.

The schizanthus has become very popular of late years, for which the introduction of many new varieties has been responsible. It is one of the showiest of all pot plants when well grown, attaining a height of from three to four feet and being absolutely covered with beautifully colored, orchid-like little flowers. It is an easy plant to grow and can be had in flower at all seasons.

Start sowing schizanthus seed during October and sow a small amount about every four weeks. The young plants, when large enough, must be transplanted into pots or benches. The better way is to pot up all you need in thumb pots. When they are well rooted, the ones wanted for pot use can be transferred to larger pots; the others can be planted in the benches, about one foot apart each way. A rich soil, as recommended for gypsophila, should be used. These plants are not troubled with insects of any kind — only the customary green fly which, however, is easily kept in check by spraying or fumigating. A night temperature of about 50 degrees suits them best, and plenty of liquid feeding just before flowering starts. A 6 or 7-inch pot is large enough to flower them in. Quite a range of colors can be had in this plant.



The stock, though one of the really old fashioned flowers, is as great a favorite today as ever it was



The tobacco plant is better for winter than for summer flowering, as the blooms do not close up in the dull days

Something rarely seen in greenhouses during winter is the tobacco plant (*Nicotiana alata*, or *Sanderæ* hybrid), which forces well and the hybrid varieties contain a fair range of color. It is of such easy growth that it could be easily called "weedy." It requires about the same general care as the schizanthus.

The rhodanthe is a nice little flower for pot work. It has delicately colored flowers of the everlasting nature, and being a sort of trailer requires a simple support of some kind to keep it upright. The vine is a very graceful one and makes admirable material, when cut, for table work. About three sowings of this will carry you through the winter. The plant should always be grown in pots. A simple method of supporting it is to place about four stakes around the inside of the pot and lace a few strings around the stakes.

Although it has been before us for years, the old-fashioned stock still holds its own. It is a good thrifty pot plant and has a wide range of colors. Some people grow it in pots, flowering the plant in a 6 or 7-inch pot; others have it in a much smaller pot, feeding freely at flowering time. This method gives quicker results. Others would never dream of having it any place else than in the benches. Personally, I grow stock in pots of the larger size and bench a fair proportion for cut flowers. For winter flowers, start stock in August and sow about every four weeks. You can use the "cut and come again" type, but my experience has always been that the finest flowers are always to be had from the second cutting, and it takes this stock almost as long to come into bearing again as it would if you had a nice batch of young, healthy plants all ready to bench as soon as you had completed your first cut. Stock thrives in a cool house, about 45 degrees suits it best, but you will get more flowers at a night temperature of 50 degrees and the soil can hardly be too rich for them.

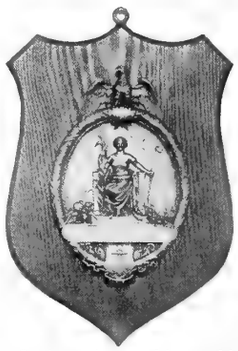
GARDENING FOR YOUNG FOLKS

CONDUCTED BY ELLEN EDDY SHAW

Garden Exhibits

THE exhibits of children's garden products are usually far from effective. This is due either to one of two things: first, poor arrangement; and second, the wilted condition of the products. And so greater care should be taken to make the display itself more effective, easier to judge, and to have products in better condition.

So often the material is placed perfectly level upon the tables or benches. It is easy to arrange for a series of temporary shelves on the benches, using the front of the table as the first level. Then, by means of two blocks or boxes and a board, make the next display, a shelf rising about eight inches from the table level. Back of this first shelf arrange a second rising eight inches above the first shelf. Thus, with almost no expense, there will be obtained on one narrow table three levels for display. At a glance the judges can see the entire exhibit if it is well placed and spaced.



Such a prize as this would appeal to most children. The shield is of wood, with the inserted panel of metal

Put the largest vegetables and the tallest flowers in the background, and thus leave the front or table level for the smallest and least conspicuous material. Do not huddle products together; let each exhibit stand out as a unit with spaces between it and its neighbours. It is better to have all the vegetables together in one place and all the flowers in another. If then there be a third class of exhibits, school exhibits, place these by themselves. If one section of a show is given up to the children's work, put the individual vegetable and flower exhibits around the room; then run a table through the centre of the space and upon this table arrange the school exhibits.

Cover the benches and tables with dull green paper, wrapping paper or burlap. Crêpe paper is the poorest material to use for this purpose because when wet it looks so wretchedly. Whatever signs are needed should be clearly printed on heavy white paper. If it is possible have exhibitor's tickets printed; then these tickets may be placed by the individual exhibits.

Neatness, uniformity, and proper labeling go far toward making an exhibit attractive. Ask those entering the flower contests to bring containers for their flowers; such receptacles as plain bottles like olive bottles, easy to obtain, may be used to advantage. A conglomeration of receptacles detracts from the general appearance of the show. The centre of interest is the flower itself and whatever detracts from that should be eliminated

The pasteboard picnic plate may be used for the vegetables where plates are needed. These are inexpensive. Certain vegetables, when laid upon the tables, stain the bench coverings and so the exhibit as a whole, soon looks quite untidy. The pasteboard plates prevent this.

We cannot expect the children to present their products in the best of condition unless we give them some directions. If flowers are entered pick your specimens the night before they are to be submitted. Pick long stems, perfect blooms with green leaves. Avoid choosing those flowers upon the stems of which are imperfect leaves. Place the stems in water and keep in a cool place. Wrap the specimens in damp and then dry newspapers when ready to carry to the exhibition hall. If the entry calls for seven specimen zinnias, do not carry in eight zinnias. Follow the entry conditions absolutely. If a potted plant is to be entered (like lobelia, for example), pot it up some days before the time of exhibit and keep it in a shaded place in the garden. Thus the plant becomes used to its new quarters before the great day and looks fine and fresh when needed. If potted up the day of exhibit, the plant always presents a drooping appearance.

Vegetables should be cleaned before entering. Vegetables covered with soil should never be accepted. Cut off the tops of beets, carrots, radishes and any others which show wilt quickly. Wilted radish leaves add nothing to the effect of the exhibit as a whole, but rather detract. Lettuce heads should be well sprinkled with fresh water so they keep a fresh, crisp look. The fine appearance of a vegetable exhibit ought to present a temptation to the public. Instead of this the general droop of the foliage and the clinging soil often makes the public feel like running away. Some attempt at decoration and attractive setting adds greatly to the general effect; asparagus vine, smilax, bitter sweet, ampelopsis might all be used to trail along the benches.

The prize-winning home garden of a Toronto boy. Note the pleasing general effect of this small backyard garden

Reports of Garden Results

THE Children's Home Garden, Jersey City Heights, covers a piece of land 70 feet by 90 feet and forty children work in the area. The harvesting covers a period of time from May 4th to September 2nd, so that the report here given does not represent the entire yield:

Beans, lima	21 qts.	Lettuce	16 pks.
Beans, string	13 pks.	New Zealand spinach	6 qts.
Beets	987 "	Onions	283 "
Cabbage	13 "	Peas	2 "
Carrots	1783 "	Peppers	91 "
Corn	370 "	Radishes	1242 "
Cucumbers	18 "	Squash	38 "
Eggplants	9 "	Tomatoes	1293 "
Kohlrabi	84 "		

There was plenty of parsley also.

The flowers raised in the flower section were as follows: geraniums, baby's breath, ageratum, cosmos, zinnias, portulacca, asters, sweet alyssum, nasturtiums and salvia.

Jersey City. ANNA MOLTEN, Supervisor.

PERHAPS you would be interested to know how a city boy raised vegetables in the city to reduce the cost of living for his parents.

I spent one entire morning of the six weeks of school vacation in planting, cultivating, and watering my four garden plots. In one of my plots I raised tomatoes. I did not plant the seeds but was given young tomato plants to transplant. This plot was known as an observation bed because it was not like the other beds. In my three other plots were growing tomatoes, carrots, radishes, turnips, corn, onions, string beans, and lettuce. From the tomatoes I received eleven pounds of green ones.

I received a few carrots which were of medium size. I planted three crops of radishes and received for my labor about one dollar's worth. In my three plots were eleven stalks of corn which produced nineteen good ears. Very few onions came up. My string beans flourished and from twenty-seven plants I got two quarts of beans. From the lettuce I received nineteen heads. So you can see it paid me to work that half day for six weeks; and besides the vegetables, I received the honor of having the best plot in the garden.

New York City. ISAAC RAUCH.

MY PLOT at the Rockefeller Garden was 5 feet by 10 feet. May 9th I planted lettuce, beans, beets and radishes. June 9th, I picked my first radishes, 123! Then I planted zinnias and had great bunches of them during the fall. The sixteenth of June was the first picking of lettuce; there was about one peck of this. But later in July the lettuce headed and from my plot I took twenty-six heads.

There were two crops of beans and I had two quarts each time. The first picking of beets was on July 9, the last on August 29. I had forty-one beets. I planted sweet alyssum as a border in my garden and that blossomed profusely.

New York City. MINNIE MCKENNA.

I WAS given a piece of land ten feet by twenty feet. When father had his garden plowed, he had my garden plowed also.

I then raked off the piece of land which was to be my garden to make the soil as fine as possible. Next thing I did was to make this land into a large bed, to separate it from the other soil. After I had finished I bought my seeds. I asked for two packages of lettuce, two packages of radish and one package of cucumbers. I had some bean seed which I kept from last year. I received a small package of sweet corn from the Agricultural College, and father gave me a few cabbage plants. These seeds which I have mentioned are all that I planted in my garden.

Roger William Park School garden exhibit, Providence, R. I. This won the first prize in our national contest

My corn proved to be Golden Bantam. I gathered enough for a day's dinner. This corn had a very good flavor.

About this time my beans and other vegetables were ready to eat, excepting my cabbage, which was the only vegetable that did not turn out well. We had quanities of beans. I did not have many cucumbers, but what we did have were very good. I did not expect to have many out of the few seeds that I planted.

One row of lettuce was head lettuce but the other was not; it was just the plain leaf lettuce, but was very good. After the radishes came out I planted fall beet seeds. In about a week they came peeping out of the soil. I got about a peck from what I have planted.

Massachusetts. HENRIETTA WORTHINGTON.

The Readers' Service gives information about real estate

Planting the Small Hardy Border

THERE is not much opportunity for elaborate floral display on a small place, nor much occasion for it; the garden is generally confined to a border, reënforced, perhaps, by several smaller borders or beds, but supplying with its color most that is cheerful in the garden design. It is necessary, then, that great care be taken in the selection and arrangement of the plants, as the colors will be brought into close relation to the house and will influence the occupants almost as much as the decorations of the rooms. Consider the garden as an apartment, treat it as such, and give the same consideration to the materials for its adornment as you would to the decorations for the interior of your home.

Nowadays small houses are usually of simple design, and I mean by small houses those costing from five to ten thousand dollars and occupying plots of from half an acre to an acre and a half. The gardens, or yards, of these houses should be in keeping.

If one is limited to a border there is no reason why some of the beauty and effect of a garden cannot be achieved in a small space. A border will be more impressive if it has the support of a stone or brick wall, a hedge, a picket fence or even a bank of turf, for flowers are much happier with a background that will bring out their form and color, and the perpendicular lines of the tall plants will gain in value by repetition. A border should not be simply a garnishment for a path; the temptation to repeat, in the planting, the usually straight lines of the right-of-way is subconsciously compelling and dismal in its results. If the hedge or wall is so situated that it forms, or even suggests the outlines of a forecourt the border will gain in effectiveness, for then it will truly be a part of the house.

On a small place it is better to avoid a "one color scheme," for the plants upon which one has to depend for midsummer effect in this climate are not too reliable in the way of tones. And in a small enclosure a border of pink, or mauve, or lilac would soon become deadly monotonous because there would be no escape from it; it would dog the eye and the mind whenever one came out of the house or looked from a window; it would end in a delirium tremens of color before the season was half over. To have the border interesting one should avoid monotony.

In studying the English gardens and borders, than which there are none more colorful and dignified, one is impressed by the simple planting which does not depend for its success upon a great variety of flowers, but rather upon the perfection of the individual specimens and the composition of the groups. In every garden there are a few, and generally only a few, plants that thrive and do well; one soon discovers which flowers are happiest in the setting that has been provided, and it would be wise to devote one's attention to these. In one English garden hollyhocks may be the dominant feature, the borders being skillfully planted up to them with forms and colors that will intensify their beauty. In another garden larkspur may be the keynote, or campanula, or pyrethrum, or striking combinations of these old favorites.

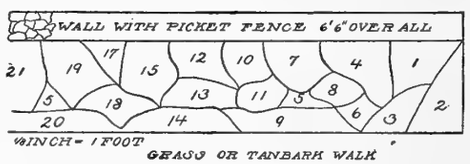
As the success of the border depends largely upon the continuity of its bloom, much thought should be given to the plan of planting. The temptation to which most gardeners succumb is ambition, the endeavor to produce in a space of fifty by eighty feet the effects of elaborate plantings that could scarcely be crowded into a garden ten times the size. Would it not be better to have the flowers open a little late, even toward the middle of June, and reach their maximum in August, than to sacrifice the finished effect for a little evanescent color earlier in the season? For this reason I have omitted from the accompanying plan such plants as peonies and irises, for although they are beautiful when in flower, when the bloom has passed their shabby and bedraggled foliage is an eyesore and difficult to hide. It is necessary to plan in the beginning to hold the color after the climax has been reached, to make the planting interesting until fall. When the plants are growing and the flowers unfolding, they are attractive in themselves; the freshness of their leaves, their life and movement stimulate the imagination and the many different tones of blues and greens and grays are satisfying to the eye. The

The Readers' Service is prepared to advise parents in regard to schools

border may be made cheerful in early spring with scillas, narcissus and cottage tulips, for they may be so placed as not to interfere with the permanent planting and their foliage will wither and disappear in a short time. Pansies used along the edging will be spent before their room is required.

When planting a border I am always tempted to provide a liberal supply of white flowers for August, the effect is so cool and refreshing, and it is easy to accomplish with phlox, mallow, funkia, Michaelmas daisy, dahlia, lilies and petunia, the latter flower especially developing a charming wild abandon as the season advances. I would not have the border entirely white, but just enough to suggest a sprinkling of snow over the sun-parched greens.

Following is the key to the plan of a border some forty feet long. The motive may be repeated or varied to suit the ideas of the owner, the clumps enlarged or contracted, but if the suggestions are followed in a general way there will be plenty of color for several months. The path in front of the border might be of turf, and quite wide, fully as wide as the border. A path of tanbark is good; the color is soft and harmonizes with the flowers and it is always clean and dry to walk upon. But unless there is a tannery in the neighborhood it is difficult and expensive to procure.



NUMBER	NAME	NUMBER	NAME
1, 15	*Rosa rugosa.*	11	*Lilium umbellatum, erectum, grandiflorum, speciosum,* and vars. *album, rubrum.*
2	*Yucca filamentosa.*	12	Phlox, pink shades.
3	White phlox.	13	*Aster Novæ Angliæ.*
4, 19	Hollyhocks.	14	Half-dwarf antirrhinum,
5	Japanese anemone.	17	Dahlia Perle de Lyon.
6	Coreopsis in variety.	18	Brilliant phlox.
7, 21	*Delphinium Belladonna.*	21	*Delphinium formosum.*
8	Brilliant phlox.		
9, 20	Fringed white petunias.		
10	Dahlia Geisha.		

Rosa rugosa is desirable on account of it substance and the perpetual freshness of its foliage. If it is slightly pruned it will bear many flowers through the summer, and the white hybrid, Blanc Double de Coubert, will bloom again profusely in August.

The groups of hollyhocks should be composed of plants of different stages of development. To those that are already established in the border should be added some of last summer's seedlings that have been wintered in the coldframe and some from the open seed bed, together with a few self-sown plants and annuals. By using growths of different heights and degrees of robustness the composition of the clump will be improved.

It is better to mass Delphinium Belladonna near the light colored hollyhocks than to mix the light and dark blues indiscriminately. When the flowers begin to fade they should be cut back to bloom again, and some of the seedlings that were started under glass in the early spring should be planted in the clump, for these will be late to mature and will prolong the freshness of the undergrowth.

The fringed petunias and antirrhinums will flower through the season with a little care. They should be allowed plenty of freedom, even to overflowing on to the path and kept well cleaned of faded blooms. Many of the phloxes should be pinched back and some of the flower heads plucked before they are full blown so as to keep the clump in color until frost. As some of the whites and desirable pinks are quite late, the different timed varieties should be well mixed in the planting.

Lilium umbellatum, grandiflorum and *erectum* are most effective near larkspur and easy to grow, but as the bulbs increase rapidly they should be separated and replanted every three or four years. The season of this lily is rather early, so it would be well to combine *Lilium speciosum* with it to preserve the balance of the border in August and September. On the wall I would train *Clematis paniculata*, var. *grandiflora* at intervals of ten feet, with the large leaved euonymus between. The great masses of white overhanging the border in late summer are very acceptable, and the glaucous green of euonymus is a delight to the eye.

New York. CORNELIUS V. V. SEWELL.

For information about live stock write to the Readers' Service

SUGGESTIONS FOR THE HOME TABLE

Conducted by
EFFIE M. ROBINSON
Graduate of the National Training School of Cookery, London, England

I OFTEN wonder why housewives will buy ahead of the season. Why be so impatient? Why not allow nature to perfect her work? Why not find out what is really and truly in season in your own neighborhood, instead of expecting impossibilities? Do you not expect your gardeners to give you their best labor and the best fruit of their labor? Then show them that you can appreciate quality and refuse to use forced and therefore tasteless articles.

Foods Forced Out of Season

NOW I say aim for quality in fruits and vegetables before anything else. The right season by Nature is the right flavor and the right use to which the article is put in your body. But instead, just as soon as anything appears, people rush to buy irrespective of season. Strawberries, for instance, are displayed in the windows frequently when the snow is on the ground, *but* they are forced to sell and picked unripe and have no flavor or aroma or sweetness.

These forced fruits and vegetables cost a fancy price too, and one is really almost inclined to believe that it is greatly a matter of pretension that makes people buy poor, flavorless stuff out of season.

Again the High Cost of Living!

I UNDERSTAND that there is to be a regular monthly bulletin issued to help the housewife by giving the proper things in season and prices. This would supply another "long felt want." It would also help the tradesman. Things now are demanded out of season greatly through ignorance. There is such a continual supply of "newlyweds" with mighty little knowledge of housekeeping, and its important branch, marketing. The poor tradesman is bewildered, but wants to please his customers; he therefore gets things out of season or greatly in advance of the season, and has to pay a big price for them. The customer, of course, has to pay a bigger one and up goes the much talked of "high cost of living." Truly there are many reasons for that domestic bugbear.

During the real summer months no one can want more variety than can be obtained from one's own garden or market. There is so much of everything that the peddlers peddle and the people pick and every one revels in the wealth of fresh garden stuff. A grumbler in summer is surely almost unheard of, except maybe the butcher! Meat used in quantity in the heat of summer is hardly necessary, as it makes a concentrated and highly nitrogenous food, and should only be used sparingly in conjunction with vegetables which contain the salts and also supply necessary bulk which assists digestion.

Fish as a Substitute for Meat

FISH, either served plain or as a salad, makes a useful change and can be used once or twice a week, cutting out meat altogether that day. I learned a delicious way to cook halibut the other day, and sliced cod could be served the same way. Have the halibut cut in slices about three quarters of an inch thick, wash the fish, lay the pieces side by side in a rather deep pan, and pour on sufficient milk to cover them, sprinkle with salt and pepper and bits of butter — it will take about two ounces of butter — and one gill of milk, then bake till the flesh turns white and opaque and separates easily from the bone, when gently tried with a skewer. Lift the fish out carefully and keep hot on a dish. Use the liquid in making melted butter sauce to be served with it. The flavor of the fish is retained better than if it is boiled. In fact, I hardly ever boil fish, instead I steam it. So much of the flavor of the fish goes into the water if boiled. I do not use a steamer, either; I put the fish on an agate plate on top of a saucepan of boiling water, sprinkle the fish with salt, cover closely and steam till cooked through, as described above.

An Emergency Dessert

THE other day company arrived quite unexpectedly for lunch, and almost at lunch time, and I gave them, among other things, a dessert that they pronounced excellent. I happened to have some cold boiled rice left over from the curry of the day before. So I looked with quaking heart at my stock of cans in my closet, and my relief was great to find I still had some canned pineapple. For this dessert you must keep a supply of canned Hawaiian crushed pineapple — slices or chunks will not do. I took my can of pineapple, measured out one cupful, then took the same sized cup and filled that quite full of boiled rice, mixed them in a deep, cut glass or fancy bowl, added half that same cup of granulated sugar. I had a half pint bottle of cream on the ice — so quickly whipped that to a very stiff froth and stirred it in lightly. Then I put that on top of my ice in the refrigerator to get it as cold as possible while I served the first course of the luncheon. If you have a few maraschino or candied cherries or ratifia biscuits they look pretty placed on top for decoration. The fresh pineapples can also be used but I find the already crushed so good that it is not necessary to trouble to grate the fresh.

Cleaning and Keeping of Fruits and Vegetables

MANY of the fruits that we grow in our gardens seem to belong together. For instance, raspberries and red currants; the sweet of the raspberry counteracts the acidity of the currants and makes a most refreshing combination. All berries should be washed carefully; in fact, all vegetables and fruits that are to be eaten raw should have particular attention. For instance, the raspberry is deceiving because it seems about the cleanest berry we have. But I have to pick them over one by one and look in the heart of each, for there is an insect that curls itself up inside the raspberry, and just washing will not dislodge it. Even if you pick your fruits and vegetables from your own garden and know who has touched them you always wash them; but you may not have everything you want in your garden and then have to buy from the men who come around with their carts or at the markets and imagination leads me to do strenuous cleansing processes! I pick over berries and small fruits carefully, then have a kettle of boiling water ready, put the fruit in a colander, pour boiling water over, one dash as it were, and quickly plunge them into cold water. If this is done quickly, there is absolutely no taste of cooking as some people claim.

(*Continued on page 64*)

SUGGESTIONS FOR THE HOME TABLE

Conducted by
EFFIE M. ROBINSON

Graduate of the National Training School of Cookery, London, England.

WHAT THIS DEPARTMENT MEANS TO THE READERS OF THE GARDEN MAGAZINE

WHEN the idea of this "Suggestions for the Home Table" Department was first conceived the interests of our readers were naturally uppermost in our minds.

We felt from the first that the idea was closely allied with the theme and purpose of this magazine, and after most careful thought and investigation we became convinced that in the general plan and programme of THE GARDEN MAGAZINE there was a definite place for a department of this kind and that it would be of real value and service to our readers.

Accordingly we engaged the services of Miss Effie M. Robinson, a graduate of the National Training School of Cookery in London, and the idea became a reality in the June number.

And as a logical supplement to the editorial matter we decided to offer a limited amount of advertising space in this section to the manufacturers of food products approved by Miss Robinson, a number of whom have already taken advantage of this exceptional opportunity.

It will be well worth your while to read carefully each month Miss Robinson's articles and then to digest thoroughly the information contained in the different advertisements for we believe the institution of this department to be one of the most constructive steps THE GARDEN MAGAZINE has taken in the ten years of its existence and that you will find herein many ideas and suggestions that will be of the greatest assistance to you in your housekeeping activities.

Miss Robinson will be glad to answer personally any inquiry regarding any subject whatsoever in connection with the home table, which our readers may care to send her. Address care of The Garden Magazine, Garden City, Long Island, New York

All foods advertised in this department have been tested and approved by Effie M. Robinson. They are also sold and recommended by the Doubleday, Page & Co. Coöperative Store

Suggestions for the Home Table

(*Continued from page 62*)

Be careful not to crush the fruit; also in preparing different vegetables do not let them stand in water for long before using as they will absorb the water and become tasteless. Radishes, for instance, can be kept crisp two days by wrapping the whole bunch in waxed paper and laying on top of the ice. Then when ready to use wash and trim and serve, whereas if prepared and then kept in cold water till wanted they will be soft and soggy and watery. Also, I would suggest that muskmelons should be kept cold in the ice box, but not with chopped ice in them. It takes the flavor out entirely.

A Hint to Picnickers

PICNICS are primarily and essentially for children, I think, and one must cater to their needs. If you have appetizing lunches, you are independent of restaurants or "halfway houses." Drinks, however, must be provided, and there again, as I mentioned before, the thermos bottle is invaluable. If you cannot get a good, cold, thirst-quenching drink on your travels, your picnic is spoiled. These vacuum bottles are really being sold very inexpensively now, and for people with automobiles, who make frequent trips, they pay for themselves in comfort very soon.

The Middle South

SOW perennials in the early part of September, if they were not got into the coldframes last month. Sow sparsely so there will be no need of thinning out later. The plants will get a good start before cold weather and be ready to set out in the open ground in March and April. Some of the most desirable perennials of easy culture are:

Canterbury bells, delphinium, hollyhocks, sweet William, Japanese bellflower, *Anchusa Italica*, aquilegia or columbine, candytuft, dianthus, digitalis or foxglove, oriental poppies, *Lupinius bolyphyllus*, physostegia, pentstemon, wall-flower.

Pansies and English daisies (Bellis) sown in the coldframe and wintered over will be in full bloom by the middle of February and can be set out in the open ground in March.

To insure a variety of bloom for March and April, sow in the open ground where you wish them to remain, the following annuals:

Mignonette, arabis, myosotis or forget-me-nots, dwarf phlox, and sweet alyssum. It saves time to plant in the fall and avoids the spring rush.

Wallflower, beauty stock, and snapdragons that have wintered over through the protection of a light mulch of well rotted manure will bloom in February. If one's garden is carefully mapped out, a fall sowing of gaillardia, petunia, scabiosa, cornflower and annual larkspur and poppies will bring earlier flowers by a month or six weeks.

At the end of the month prepare your bulbs for winter blooming for the house and conservatory. Paper White narcissus, Roman hyacinths and Dutch hyacinths, early tulips, freesias, and cyclamen should be planted in good soil in shallow pots, leaving enough room for the bulbs to swell. A 6-inch pot would accommodate six bulbs. Cover with half an inch of soil. Bury the pots in the open ground one foot below the surface and on the north side of the garden if possible, and bring them into the house in relays every two weeks throughout the winter so as to have a succession of bloom. This method gives an opportunity for root growth. Keep in the cellar for a week or two and then bring into the warmth of a sunny window.

Transplant into pots for house plants a few annuals that have sprung up in the garden, such as petunias, verbenas and larkspur.

If the violet plants were separated in April and set out in the open ground for the summer, they should be taken up and transplanted to the coldframes. Make the soil rich with well rotted manure and have it well worked and light. Then plant the violets six in a row in rows eight inches apart. Water carefully every day and shade from sun. The flowers that bloom this month are zinnias, chrysanthemums, dahlias, petunias, verbenas, asters, snapdragons, stock, etc.

The Cochet roses should certainly be planted in

Southern gardens in quantities. They bloom with profusion in spring and fall and some little throughout the summer and often up to November.

FRUIT AND VEGETABLE GARDEN

Set out strawberry plants during the first part of September. A good soil for such is one that has previously been in crimson clover and plowed under. Put on plenty of well rotted manure and set the plants one foot apart, the rows being two feet apart.

Raspberry and blackberry canes should be planted in a cool, half shady place and the old canes trimmed back one half.

For the onion patch make the soil very rich with barnyard manure mixed with kainit.

Plant potato, queen and pearl onions six inches apart, in rows two feet apart. Where the garden soil needs building up and more humus, sow crimson clover to be turned under in the spring.

Sow in open ground winter kale and spinach. Do not have the soil too rich, but rather encourage a sticky growth to withstand the cold of winter.

Also set out fall cabbage and broccoli plants. Celery plants which should have been set out in July must be kept well watered throughout the summer. Every two weeks sprinkle between the rows a small quantity of nitrate of soda.

White potatoes should be dug after the vines die. Let them lie on the ground in the shade until dry and afterward spread on the barn floor for several weeks. They could be kept in a cool dry cellar or else put in kilns outdoors for winter keeping.

Brussell sprouts and cauliflower and white potato vines should be occasionally treated with bordeaux mixture, and tobacco dust for insects.

Sow in coldframes for winter use early Jersey Wakefield cabbage and also onion seed, to be transplanted in the spring.

Sow the Big Boston and Boston Market lettuce seed in coldframes not later than first part of month so as to have little plants to set out the first of October. Transplant to coldframes in which the soil has been made very rich with well rotted manure, and pulverized. Plant six in row about eight inches apart. Occasionally sprinkle a little nitrate of soda between the rows and force the lettuce to head by December. Make several plantings two weeks apart to middle of December.

The small late canteloupes that do not ripen can be put in strong brine as well as the cucumbers and string beans and later on pickled for winter use.

The first of September is the time to sow lawn grass seed. Get the ground in good condition, well pulverized and level; sow bone meal and then grass seed and roll with a heavy roller. Get a good mixture of lawn grass from a reliable seedsman.

Virginia. J. M. PATTERSON.

Duties for the Lower South

DO NOT permit seed to form on the cannas. The best flowers are produced during the fall when the nights are cool. Along the edges of lakes and other moist places they make as beautiful a display as Japanese iris.

During the month plant some Madonna lily bulbs. Select the largest sized bulbs.

Plant out the perennial phlox now. Divide the old plants if too thick. Have the soil rich.

Remember not to neglect chrysanthemums. This is the time of year when they should be given liquid manure and disbudded for show blooms. The same may be said of asters sown in summer.

Early cucumber and bush squash may be planted in Florida during the month.

Pick the field peas after a rain when the pods are still damp which prevents the pods from bursting and scattering the seed.

Cotton picking is now the order of the day in the South. Keep it picked as fast as it opens.

Sow turnips for table use; and for the cattle, plant Seven Top turnips and Essex rape. Rye mixed with oats makes a splendid pasture for cattle. Sow now for early pasture. Remember that crops grown for pasture require more fertilizer than do regular crops.

Salsify, or vegetable oyster, requires a long growing season. Parsnip, carrot, radish and beet may also be sown now.

Don't forget to order your fruit trees.

Georgia. THOMAS J. STEED.

CLUB & SOCIETY NEWS — COMING EVENTS

Meetings and Exhibitions in September

3. Garden Club of Lawrence, L. I.: exhibition of stocks and dahlias.
Worcester County Horticultural Society, Worcester, Mass.: exhibition of cut flowers.
4. Pasadena Horticultural Society, Pasadena, Calif.: meeting.
5. New York Botanical Garden, Bronx Park, N. Y.: lecture "The Life History of a Tree," by Dr. C. S. Gager.
5, 6. Massachusetts Horticultural Society, Horticultural Hall, Boston, Mass.: exhibition of products of children's gardens.
7. Staten Island Garden Club, New Dorp, S. I.: meeting.
9. Nassau County Horticultural Society, Glen Cove, N. Y.: meeting.
9, 10. Hartsdale Literary and Improvement Society, Hartsdale, N. Y.; fourth annual flower show.
10. Worcester County Horticultural Society, Worcester, Mass.: cut flower exhibition.
11. Connecticut Horticultural Society, Hartford, Conn.: meeting.
12. Dobbs Ferry Horticultural Society, Dobbs Ferry, N. Y.: meeting.
New York Botanical Garden, Bronx Park, N. Y.: lecture "Diseases of Cultivated Plants," by Dr. G. P. Clinton.
12, 13. Massachusetts Horticultural Society, Horticultural Hall, Boston, Mass.: dahlia and fruit exhibition.
16. Tarrytown Horticultural Society, Tarrytown, N. Y.: meeting.
16, 17. New Haven Horticultural Society, Harmonie Hall, New Haven, Conn.: annual flower show.
17. Worcester County Horticultural Society, Worcester, Mass.: cut flower exhibition.
18. Pasadena Horticultural Society, Pasadena, Calif.: meeting.
19. New York Botanical Garden, Bronx Park, N. Y.: lecture "Interrelations between Botany and Geology," by D. Arthur Hollick.
21. Staten Island Garden Club, New Dorp, S. I.: harvest show.
22–24. American Institute Fair, Engineering Building, New York: dahlia show.
23, 24. Connecticut Horticultural Society, Unity Hall, Pratt St., Hartford, Conn.: annual dahlia show.
24. Worcester County Horticultural Society, Worcester, Mass.: cut flower exhibition.
25. Connecticut Horticultural Society, Hartford, Conn.: meeting.
26. Dobbs Ferry Horticultural Society, Dobbs Ferry, N. Y.: meeting.
New York Botanical Garden, Bronx Park, N. Y.: lecture, "Wild Flowers of Autumn," by Dr. N. L. Britton.
27. Short Hills Garden Club, Short Hills, N. J.: annual dahlia show.
30, Oct. 1 Oyster Bay, L. I., Horticultural Society: dahlia show.

Foreign Fixtures

Berne, Switzerland: Exhibition May 15 to October 15.
London, England: Anglo-American Exhibition at Shepherds Bush, May to October; Royal Horticultural Society's Hall, Vincent Square, Dahlias, September 8; Vegetables, September 22; Roses, September 24; British-grown fruit, September 29, 30.
Lyons, France: International Urban Exhibition, May 1 to November 1, 1915.
Moscow, Russia: Universal Exhibition of Trade and Commerce, spring 1915.
Düsseldorf, Germany: exhibition, May to November.

Note:—The Editors will be grateful for information about the doings of gardening societies, clubs, etc., and especially as regards coming events. In order to ensure timely publication, the information must reach the Editors by the *twelfth day of the month preceding the date of issue* in which the notice should appear.

The Garden Club of Michigan

At the July 11th meeting of the Garden Club of Michigan, the President, Mrs. Francis King, read the article in the July GARDEN MAGAZINE on "Philosophizing with Anchusas." Sprays of the Dropmore and Opal anchusas were passed around during the reading, and a spirited discussion of Mr. Duffy's article followed. Mrs. William Anderson, honorary president of the Club and dean of the gardening fraternity in that region (whose flowers are a wonder throughout the season), declared the article to be one of the best bits of gardening advice she had ever heard. The August meeting took the form of a gladiolus show. This Club's dues are only twenty-five cents and the sole requirement for membership is an interest in gardening.

A New Sweet Pea

The Society of American Florists and Ornamental Horticulturists gives notice of the following registration of a new plant:

By Vaughan's Seed Store, 31 West Randolph St., Chicago, Ill., a new sweet pea for greenhouse forcing, by name Selma Swenson. This variety was originated by Mr. G. Swenson, Elmhurst, Ill. The color is a light, soft, clear pink.

How to Stage Garden Produce

Have you a garden club in your small city or village, and are you a good working member, as all members should be in a well-organized, earnest, limited membership garden club? Are you willing to give anywhere from a half to a whole day in selecting and preparing exhibits of whatever your garden may possess, for the show or exhibit? If so, you will make a good member.

Of course, every club has very much the same schedule for its members to work from. There must be three exhibits to award a blue ribbon, four exhibits to award a red ribbon, and five for a white one. Therefore, it is most important that many members exhibit everything good they can to fill the classes and make a worthy show.

A red, white, and blue ribbon is given for the best flowers exhibited in the show, in whatever class it may be, also one for the vegetables, fruits, preserves, jellies, or wines. Also prizes are awarded in various classes and one for the greatest number of points won by a member in the club year.

When selecting flowers for exhibition, always take the most perfect specimen, though not necessarily the largest as an abnormal blossom is not desirable; look carefully at stem and foliage as well as bloom. They, too, must be well grown, free from disease and pests. Stage just the number of blossoms called for in the schedule. If a certain number of blooms be stipulated, it means on separate stems. "I hope they notice my three roses on one stem," said a new exhibitor. They (the judges) did, and promptly debarred them, as the class called for "three best roses, one color, one variety, in one vase," meaning three distinct blooms. This is a common error.

When arranging baskets of flowers for a show, do not adorn with ribbons. It is considered inartistic by most judges and may disbar an otherwise good exhibit. Place glass receptacles and wet sphagnum moss in them to hold the water, and metal or glass Japanese flower holders aid in holding the blooms apart. Baskets colored or tinted with stain, or painted white, are desirable.

In exhibiting chrysanthemums follow your schedule very carefully. Keep strictly to the classes of pompons or singles, disbudded to one bloom or not disbudded.

Never cut your flowers, especially roses, during the heat of the day as they are likely to wilt and never recover. Flowers cut toward evening are not so lasting as when cut in the morning after a night's recuperation from the heat; the cool, moist night air seems to make the stems firm.

When preparing vegetables for a show, see that they are uniform in size and quality, well washed and clean. If arranging string beans, see that not an end is broken off, that they are all of the same size, unspotted and straight.

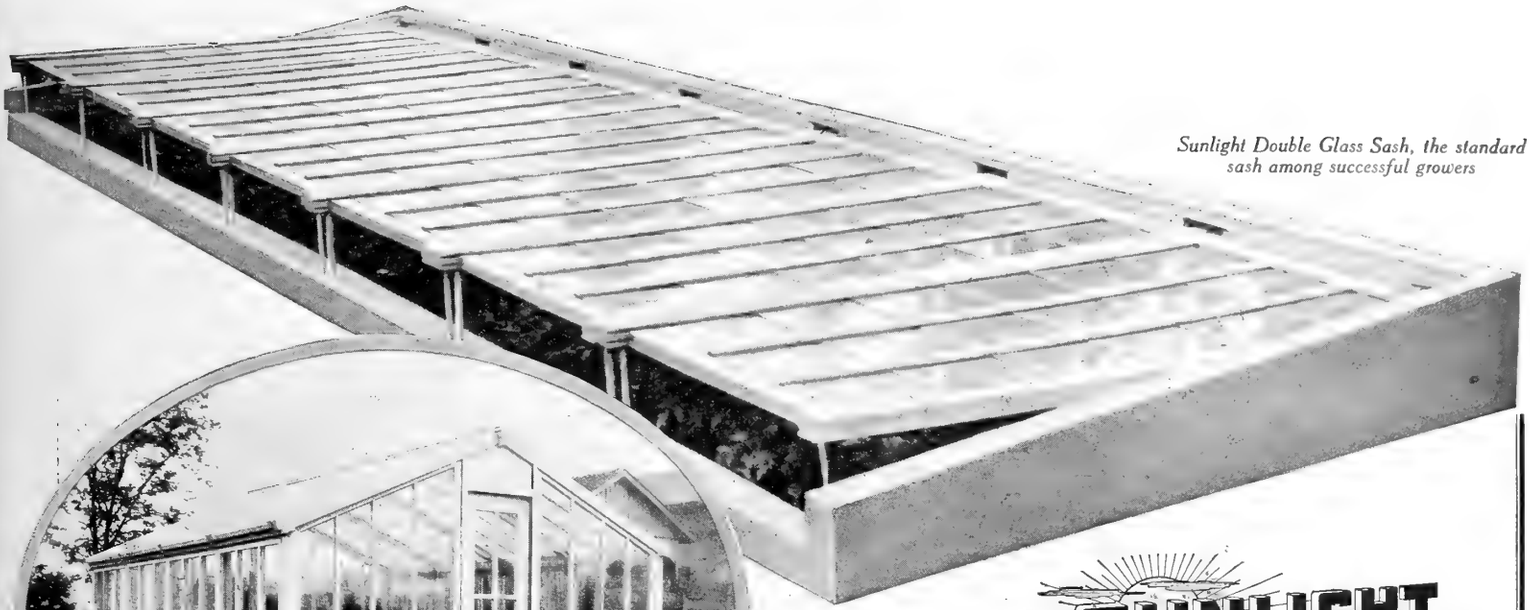
Lettuce must be firm and well headed. As it wilts quickly, it is well to place it in a receptacle filled with water. Onions, especially, should be thoroughly washed and the outside skin, if too young to come clean, either scrubbed or taken off.

Beets as well as all vegetables prepared to be displayed at their very best, must have been quickly grown, without rootlets, and well washed. Tomatoes should be all of one size, perfect in every way and number exact.

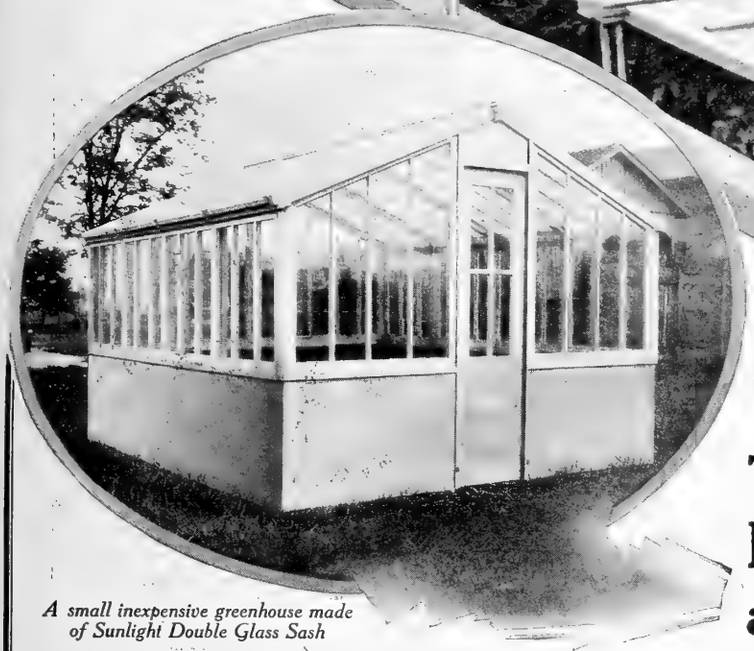
New York. A. VAN GELDER.

The Readers' Service will give suggestions for the care of live-stock

The Readers' Service will give information about the latest automobile accessories



Sunlight Double Glass Sash, the standard sash among successful growers



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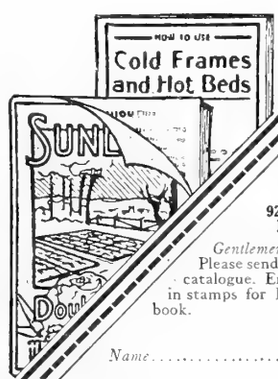

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THE GARDEN MAGAZINE

FARMING

FALL PLANTING NUMBER

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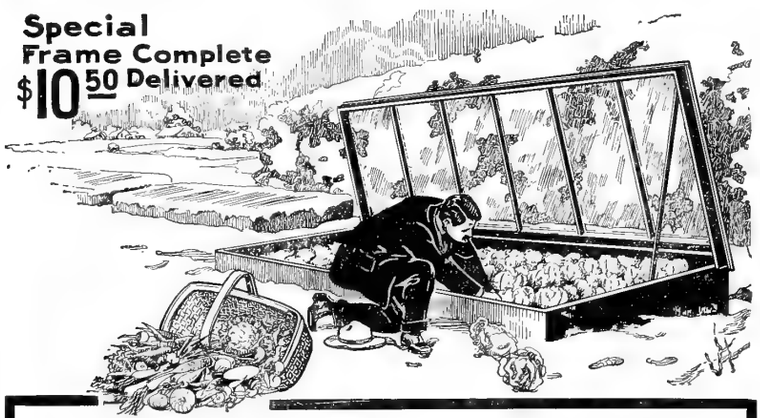

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THE end of the outdoor growing season is here. Vegetable plants that have yielded their summer bounty will, as the nights grow cold, be nipped by the frost. Flowers that have budded and bloomed will soon wither and die.

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THE TALK OF THE OFFICE

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra.*

DON'T MISS "BAMBI"

That is what we are saying to everybody these days and if we don't happen to have said it to *you* before, please realize that the news comes to you very late, and that you must hurry up if you would have a copy of the first edition.

Yes, "Bambi" is a book, but that dwindles into insignificance beside the much more important fact that "Bambi" is a *Person!* And what a capable, whimsical, scintillating person she is you won't believe until you've met her. "Bambi" began by taking two publishing houses by storm—and we were one of them. It isn't easy for a book to captivate everybody who reads it any more than it is easy for you or me to charm each person we meet. That is why we don't want you to miss "Bambi." She has a train of delighted captives as long as Broadway.

We are not going to tell you what the story is—merely that "Bambi" is a national heroine, the blithest, most winsome girl in fiction in many months. The author is Marjorie Benton Cooke, and Mary Greene Blumenschein has done delightful drawings in color and black-and-white for the story. Two editions were exhausted before publication, and the sales are now more than 20,000 copies. A very attractive "Bambi" booklet bound in colors and fully illustrated will be sent free to any one who requests it. It contains a great many interesting things about the story and the experiences of those who have read it. "Bambi" is now on sale at all book shops ($1.25 net).

NEW FRIENDS OF THE WORLD'S WORK

The Country Life Press has never met with such hectic experiences as the great war has brought about; six times the edition of the September number, which is the War Manual, has been increased or put back to the press. News stands that have previously sold 100 copies have sold 2,000 and 3,000 and at this summer time of year when 100 subscriptions is a good record for the morning mail, it has run from 500 to 1,500. Of course, the gratifying feature of the whole business is that we have made thousands of new friends and we have, we hope, done our old friends a service by giving them a magazine which presented valuable information when it was most needed.

The October number is no less indispensable. Emperor William has, in the course of his later

From the October cover of the *World's Work*, which is in full color and gold

mature years, written down the most important facts with regard to his actions, his feelings, and his general plan of life. The *World's Work* has gathered these writings together, sifted them with great care in the effort to give a true picture of the man, and put it into print as a most impressive human document.

We have the first story of the burning of Louvain, written by a staff correspondent of the *World's Work* who was one of the two trained American observers on the spot. Here are some of the other features: "How to Read the War News," by Frederic L. Huidekoper, the man who wrote the illuminating article on "The Armies of Europe" in the War Manual; the "Naval A B C," an explanation of the intricacies of naval strategy; the "Royal Relatives of Europe," by George H. Merritt; and President Wilson on his foreign policy.

The plan which we had for the November number of *World's Work* "United States, The Rebuilders" we have postponed until December for several reasons which we think are good and sufficient. In the first place, trade and commerce, exchange and ethics have all been thrown into such a condition of confusion that it is difficult to get information that is trustworthy until things are a little quieted down. What appears as a fact to-day, is apt to prove not to be the fact to-morrow, and we want this number to be of real service and to contain material that can be relied upon and its usefulness lasting.

In November will be published the Second War Manual. It will not be doing the same thing over again, for since the First War Manual was issued on September 1st, war experiences in every branch of military science have made an advance unequaled in fifty years of minor struggles with armies and navies, with warfare under the sea and in the air. We shall gather together the dramatic and interesting facts which these great experiences have made available. The illustrations will be as full as before and we hope of increased interest. These numbers will be saved in tens-of-thousands of homes and will be referred to years hence as contemporary history.

NOVEMBER COUNTRY LIFE IN AMERICA

The November *Country Life in America* will cheer the hearts of all those who love animals. Here is just the briefest mention of some articles of which it is hard to resist the temptation to tell a lot more: "On the Trail of Justin Morgan," "Fox Terrier or Something," Booth Tarkington's confession of his experience with a gift dog; "The Fun of Fancy Pigeons," by Henry Wysham Lanier; "The Dairy Breeds in America" — a symposium; "Modern Tendencies in Farm Buildings," by Alfred Hopkins; "Raising Beef in the East," by Edward Vining.

Poultry, Kennel and Live Stock Directory

Information about the selection or care of dogs, poultry and live stock will be gladly given.

Address INFORMATION DEPARTMENT, THE GARDEN MAGAZINE, 11-13 W. 32d Street, New York.

What is a fair rental for a given property? Ask the Readers' Service

The READERS' SERVICE

Expert aid and advice on individual problems of practical gardening

Keeping Geraniums Over Winter

Is there any way, other than as house plants, that geraniums can be carried over the winter? — W. J., Maine.

— In order to keep the geranium plants through the winter, it will be necessary to lift the old plants, shake the soil from them and hang them upside down in paper bags in a frost proof cellar, which is not too dry and not so wet as to allow them to rot. In other words, keep the plants in any well ventilated frost-proof cellar.

The Gathering of Herbs

In my garden I have nearly all kinds of herbs. How is tarragon used to flavor vinegar, when and how is sage gathered, etc.? — W. G. S., Neb.

— Different kinds of herbs require different treatment, as with some it is the leaves, with others the flowers, and still others the entire plant, that is utilized. Therefore, we think it would pay you to purchase a copy of Kains' "Culinary Herbs," of which the price, postpaid, is 75 cents. To make tarragon vinegar, simply steep fresh shoots of the plant in ordinary vinegar until a product of the desired strength is obtained. Sage is gathered before freezing weather, dried and kept in any convenient manner to be used ground in dressings, etc., or in the herb bags containing a mixture of such plants with which many cooks flavor their soups, sauces, etc.

Transplanting Small Fruits

Would there be any risk in transplanting raspberry, currant and gooseberry plants this fall? — J. J. K., Wis.

— You can certainly transplant raspberries, currants and gooseberries this fall. In fact, we would prefer to do it at that time, since the spring is liable to bring many other important duties. Any hardy shrubs can be safely handled in the same way. The best planting season is after the season's growth has stopped but before the ground has begun to freeze.

Inducing Rhododendrons to Bloom

Several years ago I purchased two rhododendrons which were then in full bloom. They have not bloomed since, although there has been a steady increase in wood and leaves. Is there any way by which I can induce the setting of buds for next year's bloom? — R. H. M., Pa.

— The steady growth of wood and foliage on the rhododendrons is an indication that the soil in which they were put was richer than the one from which they had been transplanted. It naturally follows that wood growth and foliage will be developed rather than flower growth until such time arrives that they have become thoroughly established in their new quarters. When the bed is full of roots so that there is no inducement to make rapid root growth the flower growth will be all the more glorious for having made a large root development first. Flowering may possibly be induced by withholding water, but you cannot very well at this time alter the soil. Sometimes, too, it is possible to throw the plants into flower by disturbing the soil about the roots.

Growing Cactus from Seed

In the book "House Plants and How to Grow Them," by Parker T. Barnes, there is a recommendation to raise cactus from seed. Where is it possible for me to get these seeds? — A. E. K., Ala.

— Dr. Charles P. Steinmetz, an enthusiastic collector of cactus, states that: "It is very difficult to raise cactus from seeds, and, because of their slow growth, very unsatisfactory; and therefore, as far as I know, never done, especially as cactus are so very easily propagated by slips. Practically any piece of cactus (including cereus, opuntia, etc.), even a piece of the unripe fruit, when stuck in dry sand, makes roots and grows. Most cactus when flowering are fertilized by insects, and as the insects which do this are more or less unknown, and probably cross fertilization is necessary, in domestic cultivation it seems almost hopeless to produce seeds — at least, I have never succeeded in doing so with most of them." The only other person that we know of who is raising cactus from seed is Mr. Robert Cameron, Curator of the Harvard Botanic Garden, Cambridge, Mass.

Garden Planning

I am sending a diagram of my grouuds; will you please mark on it what perennials and shrubs I should plant, and where? — J. L., New York.

— There are some things that the Readers' Service cannot do. We cannot supply individual plans for garden making, nor can we make planting lists for individual purposes. In order to do this work it would be necessary for us to employ an expert garden designer. We are, however, very glad to make suggestions regarding garden designs or planting plans that are submitted to us.

Books on Apple Culture

What books on the cultivation of apples would you recommend for a beginner? — O. A. G., New York.

— Any of the following would be useful: "American Apple Orchard," by F. A. Waugh, price $1.00; "Field Notes on Apple Culture," by L. H. Bailey, 75 cents; "How to Make a Fruit Garden," by S. W. Fletcher, $2.20; "Principles of Fruit Growing," by L. H. Bailey, $1.65; "How to Make Old Orchards Profitable," by F. A. Bates, 75 cents; "Apple Growing," by M. C. Burritt, 70 cents. The prices quoted include postage, and we can supply any books desired.

Begonia Digitata

Some time ago, in THE GARDEN MAGAZINE, mention was made of *Begonia digitata*. Where may I purchase it? — M. H., Calif.

— Unusual plants, like *Begonia digitata*, are not usually listed in catalogues, but we think you may be able to obtain the plant through some one of the following dealers: Henry A. Dreer, Inc., Philadelphia, Pa.; or Arthur T. Boddington, Peter Henderson & Co., J. M. Thorburn & Co., New York City.

Farm Magazines and Books

Please give me the names of a few good farm magazines and books containing general rudimentary information about farming and stock raising.— P. E. B., Colo.

— We name the following general farming books with the suggestion, of course, that they be followed up by more technical volumes, a list of which can easily be obtained as you become familiar with any special phase of farming: "Farm Management," by Warren, price $2.00; "American Irrigation Farming," by Olin Price, $1.50; "Principles of Agriculture," by L. H. Bailey, price $1.37; "How to Choose a Farm" (with a discussion of American land), by Thomas F. Hunt, price $1.90. The various publications of the Department of Agriculture, Washington, D. C., lists of which can be obtained from the Secretary of State and Superintendent of Documents, Washington, D. C., will also prove of great assistance. As to magazines, we suggest *The Breeder's Gazette*, Chicago, Ill.; *The Ohio Farmer*, Cleveland, Ohio; *The Dakota Farmer*, Aberdeen, S. D.; and *The Irrigation Age*, Chicago, Ill.

Books on Asparagus Culture

What is the best book on asparagus culture for the home garden? — H. A. B., Maine.

— "Asparagus," by F. M. Hexamer, is the only book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise. Price, 50 cents. "Asparagus Culture," by James Barnes and William Robinson (price 50 cents), and "The Book of Asparagus," by Charles Ilott (price $1.10), while of interest, are both imported and would not meet your requirements as well as the Hexamer volume.

Dahlia Culture

Do dahlias revert to some original color at times? Is there a reliable book on their culture? — C. L. B., Conn.

— Dahlias that are grown from seed will produce all kinds of results. One can never be sure of the colors in this method of propagation. Certain varieties have the peculiarity of developing different colored blooms on the same plant. We can hardly say that there is a reversion to an original type, as all dahlias are variations of one original species and are not hybrids. The best American book on the subject is "The Dahlia," by Lawrence K. Peacock.

The Hardy Garden Chrysanthemum

Where may I obtain the hardy garden chrysanthemum mentioned by Mr. Kerr in his article in THE GARDEN MAGAZINE about a year ago? — H. E. D., So. Car.

— Seeds of the hardy Japanese chrysanthemum may be obtained from A. T. Boddington, New York; W. Atlee Burpee, and Henry A. Dreer, Inc., of Philadelphia, Pa.; and R. & J. Farquhar & Co., Boston, Mass. Plants may be purchased from Charles H. Totty, of Madison, N. J., and Scott Bros., Elmsford, N. Y. and Head's Bergenfield Nurseries, Bergenfield, N. J.

White Scale on Red Cedar

How should the white scale on red cedars be cured? — W. J. McM., New Jersey.

— The general feeling is that the white scale on red cedars is not a particularly serious pest. Spray with whale oil soap or some similar preparation several times during the spring and early summer. Ready prepared lime-sulphur washes may be used and are quite effective.

Books on Native Trees and Shrubs

What books on native shrubs and trees do you recommend? — M. W. J., New Jersey.

— "The Tree Book," by Julia E. Rogers, price $4.44, postpaid; "Evergreens, How to Grow Them," C. S. Harrison, 50 cents; "Familiar Trees and Their Leaves," F. S. Mathews, $1.92; "Guide to the Trees," Alice Lounsberry, $1.92; "North American Trees," Nathaniel L. Britton, $7.70; "Our Native Trees and How to Identify Them," Harriet L. Keeler, $2.20; "Shrubs of Northeastern America," and "Trees of Northeastern America," two volumes in one, by Charles S. Newell, $2.20. Any of these books may be obtained through us by mail at the prices quoted.

Cannas or Phlox?

In a circular flower bed 10 feet in diameter, in a prominent place on my lawn, would hardy phlox or cannas make the greatest display?— O. H. B., Ill.

— We do not know whether you want flowers early in the season or late, nor do we know the height you wish to have the plants. Our own preference would be for the phlox rather than for cannas, in which case we would use chrysanthemums for late bloom. Phlox makes almost a solid sheet of color and it will last through the early part of the summer, also giving blooms later in the season. Cannas will give fine foliage effects while growing and they flower quite late in the summer and early autumn. Cannas will also give greater height but are somewhat limited in color; reds and yellows predominate, with some peculiar pinkish tints in the newer types. Cannas must be lifted in the fall and stored in a frost-proof place during the winter whereas the phlox is quite hardy.

THE GARDEN MAGAZINE

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OCTOBER 1914

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The Garden Magazine

VOLUME XX OCTOBER, 1914 NUMBER 3

THE MONTH'S REMINDER

COMPILED WITH SPECIAL REFERENCE TO THE HOME GARDEN, FROM THE TEN YEARS' DIARIES OF A PRACTICAL EXPERT GARDENER

For reckoning dates, the latitude of New York City is generally taken as a standard. In applying the directions to other localities, allow six days' difference for every hundred miles of latitude

OCTOBER is a month of real opportunities for the gardener. As active growth ceases, there are heaven born chances for planting shrubs, trees (both fruit and ornamental), and herbaceous plants generally. Most bulbs may be put out for next spring's flowers. Added to this are the closing activities of the year in all departments outdoors and the beginnings in real earnest of work in the greenhouse. Because the growth is still on the plants outdoors, now is an excellent time to take up any changes that you contemplate in or around the flower garden or lawn. The present opportunity to do any transplanting of deciduous hard wooded trees or shrubs should not be lost. There are some trees that should not be moved in fall, such as the birch, oak, and beech, but most of the others can be moved even better now than later. If spring opens up with a rush, the plants suffer a severe shock. Fall planting gets work off our hands that would only hamper the rush of things that simply must be done in the spring. It surely is wisdom to do now whatever can be done. The nurserymen are also well prepared to handle your orders now. You don't have to wait until the winter comes. Act now as soon as the leaves show signs of being mature.

Lawns and Grounds

KEEP the lawn cropped close right up to freezing weather. Some folks are very attentive to their lawn until this season of the year and then neglect it entirely. There is a late fall growth which should be mowed off, as it leaves a long straggling growth which is harmful in spring and becomes very unsightly since it usually dies back during the winter.

Start gathering leaves the latter part of the month; resolve not to burn them but to cart them to some out-of-the-way corner and make a pile of leafmold.

Before hard weather sets in, tie up all loose vines to prevent serious damage later on.

Covering for all plants that are to be protected over the winter and all mulching materials should now be got ready to use when needed.

Remember, too, to shut off water from all exposed pipes, draining them off before freezing weather comes.

Everybody's opportunity: Plant all the trees and shrubs possible this fall

Flower Garden

JUST as soon as the frost cuts the dahlias, cut off the tops, dig up the roots and store in a dry, cool cellar. Some sand covering the roots will keep them from shriveling up in a very dry cellar, and remember that frost must never touch them. A good plan, when digging the roots, is to lay them on their side for several hours in the sun. This dries them sufficiently before they are ready for storing.

Cannas are handled in the same manner as dahlias, but they may be stored without covering. Under the bench in a cool greenhouse is an ideal place but they can also be kept in a house cellar.

All tender plants of a bulbous nature which cannot endure the hardships of winter (i.e., caladiums, tritomas, gladiolus and in some cases montbretia) had best be lifted and stored in cellars. In some localities montbretia seems perfectly hardy if deeply planted.

Pansies may be set out and covered with salt hay or like material when severe weather arrives.

For extra fine sweet peas next summer, sow now; of course, they must be properly protected over the winter, but they are worth the effort. Protect by boards placed edgewise and covered with glass frames, which in turn must be covered with mats or salt hay during very severe weather, opening the frame on bright days.

Crops for Winter

ONIONS and spinach for wintering over can be sown early this month.

If not already done dry and store the potatoes at once. Any that have been stored for any time may be looked over as a safeguard against rot.

If the rhubarb is thin and poor it probably needs resetting. Dig up, divide in four pieces by cutting through with a spade and set again in a well enriched bed.

Don't neglect to brush the peas sown earlier in the season. Some should be ready for picking this month.

Keep right on hilling late celery, it requires a lot of attention now as growth is very rapid. Early celery should be of capital quality now; keep blanching with boards. Clean the asparagus bed, removing all weed growth preparatory to the final clean-up which comes next month.

ALL hardy perennials which have become too crowded should be reset this month; this lifting and dividing is required every few years.

Perennial Border

Most hardy bulbs (with the exception of lilies) will be obtainable this month and should be planted at once.

Give the border a good thorough cleaning if you are not going to make any changes in it. Cut down all dead stalks and clean all spaces between the plants, leaving the garden all ready to receive the mulch when freezing weather comes. Don't forget the mulch!

BAY trees, hydrangeas, oleanders and such like plants must now be placed where they can be taken inside on frosty nights. It is not advisable, however, to put them inside very early, as they then get very soft and will not winter well.

Protecting Porch and Tub Plants, Etc.

Summer bulbous plants such as achimines, gloxinias, begonias, caladiums, etc., should now be fairly well dried off so that the pots can be placed on their sides under a bench in a cool greenhouse. Tender water lilies must be brought in from the ponds after the first killing frosts, and stored under the benches in the greenhouse, until started into active growth again next spring. Tender aquatics that are not tuberous must be brought indoors before freezing weather, otherwise they will be destroyed.

PLANTS which have been carried over this summer in the coldframes had now better be brought inside the greenhouse, since a few cool nights will check them. Mignonette, antirrhinum, etc., but recently benched should be kept growing fast. To accomplish this keep the soil well worked around the plants, keep them free from insects of all kinds and give them the temperature they require. Don't try to grow them faster by raising the temperature for that spells failure.

Flowers Under Glass

NOW that ventilation is reduced and fire heat again required, a sharp lookout must be kept for insect pests; green fly will become a factor that must be fought, red spider is also a common enemy. Frequent spraying and close attention will keep them both under control. Preventive measures are far preferable, once they gain any headway they are hard to stamp out.

Heating and Ventilation

CHRYSANTHEMUMS will be showing color early this month. Fumigate the house thoroughly just before the buds burst to insure the flowers not being infested by black fly. Stop feeding the chrysanthemum when the buds show color, except for an application or two of soot water (to improve the color) using a 7 or 8-inch potful of soot to a barrel of water. A slight shade placed on the house when the flowers begin to expand will give better quality blooms; it has a tendency to give more length to the petal but must not be overdone, however, or the flowers will be too soft. A slat trellis is best for this purpose.

Chrysanthemums

THE first crop of vegetables such as cauliflower, lettuce, etc., should now be ready for benching. Beans can also be sown in the greenhouse. Beets and carrots for winter use should be sown at once. Cucumbers should be sown now using pots for this purpose. Radishes can be sown in between the cauliflower in the benches.

Vegetables Under Glass

The successful grower of vegetables under glass must be able to judge his or her own needs to have continuous crops at all times with the very minimum of waste. No rule can be laid down, each person must work out his own schedule of quantities. The easiest and best insurance is to sow plenty of seed always—the cost is small. Sow often and you will always have plenty of young plants on hand which is the first and most important step toward continuous crops.

It is well to tap the tomato plants as you walk through the house, this is usually sufficient to cause them to "set." In very dark dull weather, however, it may be necessary to resort to hand fertilizing, taking a spoon or similar receptacle and placing same under the flowers, then gently tapping the flowers until a considerable quantity of pollen is gathered. This is to be done at midday, when the air in the house is dry, as otherwise the pollen will not fly. The stigma of the flower is afterward dipped in this pollen which action "sets" the fruit.

A KILLING frost this month may ruin all the tender vegetables yet this will be followed by several weeks of fine mild weather. To avoid losses of this kind is easy! Heavy paper makes execllent material for covering; burlap (which is often used in shipping various articles by stores), and newspapers can be used for smaller plants. Start now to gather all such material, and have the same at some convenient place.

Vegetables and Frost

Stretch strings or wire along the rows of string beans or bush limas to keep the protective material from crushing down the plants. Have a few barrels placed near eggplants and peppers ready to slip over the best plants on frosty nights. Pole limas can be protected by pulling up the poles (of course first loosening the vines) and laying the vines on the ground and covering. Cauliflower will stand considerable frost but it is well to tie up the leaves of those that are heading. This prevents discoloration.

Cucumbers are extremely tender and can only be protected by placing a sash frame over the hill.

Corn even may be saved by bending four hills together and throwing a few frost proof blankets over them!

WAR ON THE PESTS OF FALL

(*See opposite page for illustrations*)

Fall Plowing. Have the ground turned over as late as possible. Insects that go into the soil to hibernate may then be brought back to the surface and destroyed by their various enemies.

Cleaning Up Crop Remnants. Some pests pass the winter in or about remnants of the plants that they have been feeding on. Trash should be collected and well composted, or destroyed.

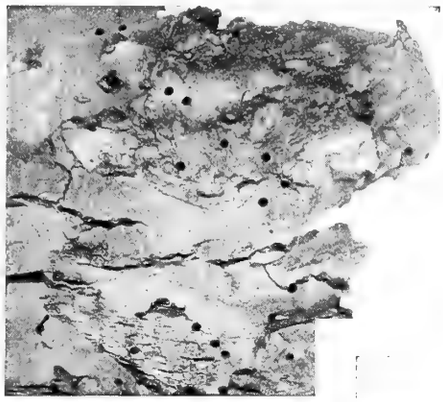
Shot Hole Borer. Watch the bark of limbs or trunk of fruit trees for tiny, round holes. If they are found, prune thoroughly and burn the cuttings. The pest spreads from dead limbs to weakened trees.

Peach Tree Borer. It is possible to detect the work of this serious pest in the fall, while the grubs are still young. Probe the burrow with a soft copper wire nicked at the end.

Bean Weevils. This species may be brought in with dried beans. It will go on breeding. Fumigate with carbon bisulphide, 1 to 2 pounds to 100 cubic feet. Keep all fire away.

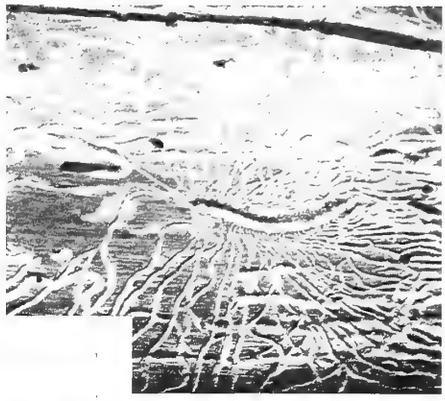
Fall Spraying for Scale. If San José has got much of a start, spray with lime-sulphur as soon as the trees are dormant, and repeat in the spring before the buds burst. The two treatments are better than one, if infestation is bad.

Plant bulbs as soon as they can be procured. For informal effects, dump them on the ground carelessly and plant where they fall



Holes like these in the bark of fruit trees are the work of the shot hole borer

Cutworms spend the winter in the ground. Plow late in the fall. Be ready with poison bran mash in the spring.



Burrows of the shot hole borer, as they appear when the bark is removed

The potato stalk borer winters in the old vines. If this pest has been at work gather the vines and burn them

The War on the Bugs

Pictured by

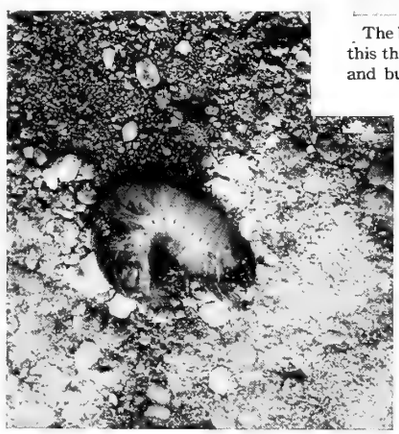
W. C. O'Kane, State Entomologist, New Hampshire

If trees or shrubs are badly attacked by San José scale spray now with lime-sulphur and again in the Spring

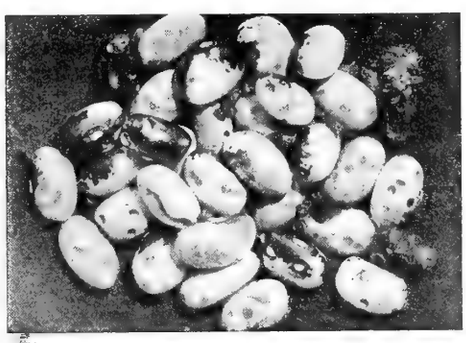
The bag worm occupies shelters like this throughout winter. Pull them off and burn them

This gall on blackberries contains the hibernating insects that cause the growth. Prune out and destroy

Examination of the base of peach trees will show whether the young grubs of the peach tree borer are present



Plow as late as possible to turn up white grubs to the weather. This applies especially to sod ground



Now is the time when the weevil begins to work in dried or shell beans

Late fall plowing helps to destroy wireworms, common in ground that has been in sod

LATE FALL IS THE TIME TO HEAD OFF SOME OF THE PESTS OF WINTER AND SPRING. DETAILS OF THE WARFARE ARE GIVEN ON THE OPPOSITE PAGE

Salt hay makes an excellent cover for lettuce or endive; even celery not yet got in can be saved thus, if you are caught by a severe frost. The hay can be easily taken off during the day.

Late Vegetables

WATERMELON or muskmelons (the latter, however, are usually over before the frost comes) are too spreading to protect, and it is better to pick all the full sized melons, which placed indoors will ripen themselves. If dwarf okra has been planted a few plants can be kept over by placing a barrel over the plant, the branches must be first tied in it lightly.

Pumpkins and squash don't need any protection as they have almost completed their growth; all the fruit should be gathered and stored in a cool dry place.

Cover the spinach with hay when heavy freezing starts in, also that which is to be carried over through winter can be protected in this manner.

Tomatoes on a trellis can be protected by using mats, burlap or heavy paper but the better plan is to pick all the fruit, selecting all the small fruit to make your green tomato pickle and placing the balance in a light airy room where they will ripen perfectly.

All the herbs should now be gathered and stored for the winter, cut and tied in separate bunches and hung from the ceiling in the attic until dry, when they can be powdered and put in boxes ready for use.

Permanent Beds

A NEW bed of asparagus may be set now. A little protection will be required for the plants during winter, but asparagus starts very early in spring and by planting in fall the plants get the advantage of an early start in spring.

Though yet too early to do any mulching it is well to prepare for the work, locating manure and carting and storing it near where required. Lime is an excellent top dressing for slow sluggish gardens; it is of course, an absolute necessity on acid soils.

Harrow over every particle of vacant space in the garden and sow down with rye; it not only makes a pleasant ground cover for the winter but is a valuable addition to the soil when turned under in spring.

Farm Crops

GATHER and store for winter use, mangels, turnips and carrots. Do not put away any of these root vegetables while wet, and do not store in a damp cellar unless a raised platform is built on which to put the roots.

Seed down with rye any fields that are cleaned and ready early in the month. This gives the ground at least some return, when plowed under in spring. Fields that can not be so handled should be plowed and left rough over winter.

Cut and stack field corn during dry weather. Clean the corn crib at the first opportunity, not waiting until ready to store.

WHAT THE WAR MEANS TO THE AMERICAN GARDENER

IN MANY quarters the fear has been expressed that the usual supplies of plants, seeds and bulbs would be completely cut off; but we are able to assure our readers that the amateur horticulturist will be able to procure practically everything that he will require.

Bulbs for fall planting have been received in quantity, since traffic with Holland continues undisturbed. Many dealers have ample supplies already, and others advise us that shipments are moving satisfactorily. There may be some delays in delivery, however, as compared with other years, and some early orders may be only partly filled. But the bulb buyer may rest assured that his needs will be met in ample time for planting. Also, because the home markets are to a large degree closed, the quality of bulbs shipped to America bids fair to be the very highest.

It is not probable that we shall receive any stock from Belgium in the way of azaleas and other flowering shrubs. It is also problematical whether we shall receive any lily-of-the-valley from Germany.

As to the seed question: we do not anticipate any disturbance in the matter of vegetable seeds. Many are raised here as it is, and as to those from abroad, there are practically sufficient stocks in this country to carry over another season, even if none were shipped from Germany or France. Most seedsmen carry over stocks of those seeds which hold their germination to cover themselves from just such conditions as are prevailing at the present time, and also from possible crop shortages. Then again, the Southern and California trade requires delivery of seeds from two to three months earlier than in the Middle West and East.

As far as flower seeds are concerned, the average amateur will not be inconvenienced to any great extent, if at all, by the present European war.

A great many of the leading flower seeds are now grown in this country, including asters, alyssum, balsam, calendula, candytuft, carnation, centaurea, cosmos, dianthus, hollyhock, larkspur, marigold, mignonette, nasturtium, petunia, phlox, poppy, salpiglossis, salvia, scabiosa, schizanthus, sweet pea, sweet William, thunbergia, verbena, zinnia, as well as many others of less consequence.

It must be kept in mind that many of the seeds that come from Erfurt, and other so-called seed centres in Germany, *are not necessarily grown there*, but are produced some in Holland, some in Southern Europe, which sections are still open. The greatest difficulties are in help to gather, clean and ship the crops (many of the able bodied male help having been mobilized by the neutral countries to protect their borders) and the delays in getting goods to the seaboard.

With regard to roses, it is probable that those usually shipped from Germany and Luxembourg will not be forthcoming, but that shipments will come through from France since the rose nurseries are below the war zone. Holland stock should come through in time. And from England we are advised that the growers there are exceedingly anxious to sell to America stock that evidently will not be in demand for the Continent, and perhaps less in demand among their own growers.

It is an encouraging fact that well established nurseries have on hand good stocks of the several lines of ornamentals and flowering shrubs generally, as the imported material is largely grown on for at least a season before it is offered to the discriminating buyer.

Moreover, the nursery and seed trade have, during the past few years, been devoting considerable attention to domestic production so that, as a whole, the trade in all branches is in a better position to sustain itself than ever before.

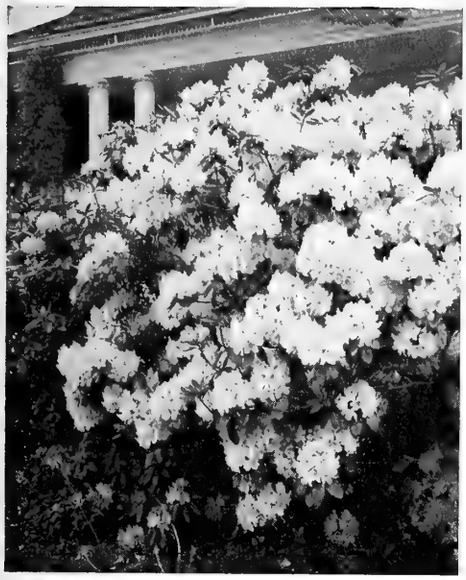
As a mere matter of self protection and in order to reduce trouble to a minimum, it is likely that most catalogue houses will omit from their lists any articles about which there is any doubt of getting a supply.

There is every reason to believe that, if the war zone is confined to its present location, everything usually offered will be procurable from some source, but arrival may be delayed which will, undoubtedly, entail an immense amount of extra labor on the seedsman and will call for patience on the part of the customers, who very frequently blame the seedsman for lack of immediate attention, without knowing the strenuous efforts that are made to get stocks in hand on time. As the whole situation is very complex, it is impossible to explain delays, and we advise our readers to order their usual requirements as early as possible, and to be prepared for a delay in the delivery of some *few* items, which are almost sure to be sent them in ample time for planting.

Starting Right with Fall Set Trees and Shrubs

By F. F. Rockwell, Connecticut

PLAIN DIRECTIONS FOR MAKING FALL-PLANTED NURSERY STOCK LIVE —GOOD REASONS FOR SETTING OUT ORNAMENTALS AT THIS TIME



Evergreen shrubs, like rhododendron, should be planted very early in fall, otherwise defer till spring

Early flowering shrubs like spirea and forsythia planted now and not pruned will give a good show of flowers next year

Now is the ideal time to move large specimen flowering shrubs and get the full benefit next spring

THE following directions are for the gardener who has had little or no experience. Long lists and descriptions are purposely avoided. The subjects is reduced to its simplest terms, to enable the beginner to succeed from the start with what he attempts along this line.

First of all the prospective planter should make up his mind to begin work at once. Now is the best time of the whole year for planting trees and shrubs of practically all kinds. It is the best time of year for the gardener, and the best for the shrubs. The ideal time for planting is as soon as possible after the first *hard* frosts. That means that you must get busy at once, because your shrubs should be ordered and the ground prepared for planting in the meantime. So the first thing to do is to write to three or four reliable nurseries for their catalogues, if you haven't some already on hand. While you are waiting for these to arrive, make yourself familiar with the general principles included in the following paragraphs.

The first thing to fix in mind is that, during the *first* year more shrubs are killed by care than by abuse. After that it is the other way around. The average gardener begins with shrubs with the idea that they should be kept wrapped in cotton batting and handled with kid gloves. Consequently they are covered in so tenderly and gently when being planted that they are loosened up by the fall and winter winds, and the freezing and thawing of the ground, and as a consequence die before the year is out. The first lesson to learn is to get them into the ground *solidly*. Jump on them with both feet! If you do that in the proper way you can do it literally, and they will be all the better for it whereas if you simply cover the earth in and press it down with your fingers, as you would when setting out a pansy or a verbena in the spring, the shrubs will pretty certainly be lost.

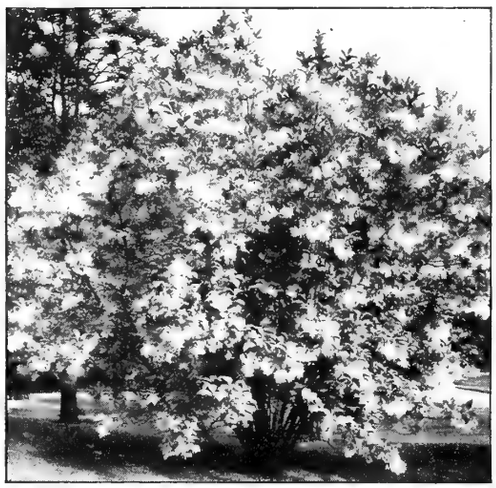
The second most important lesson to learn is about the winter mulch for the first year. Shrubs set out in the fall should be mulched generously the first winter. After that most of them can take care of themselves. But—this generous mulch is not to keep them *from* freezing: it is to keep them frozen! If you study Nature (as all good gardeners should), you will see that there is method even in Jack Frost's madness. With a silent hand, he strips the forests, and the shrubs in hedgerow and garden, of their leaves, dropping them down through the golden afternoons. He is getting his mulch ready: and when the ground freezes and the winter winds come, the leaves are whirled about in banks and drifts and form an effective covering for Nature's seedlings and bulbs and hardy borders.

Plant trees and shrubs now to relieve the winter appearance of the lawn

To take up in detail the work of planting, let us begin with the arrival of the stock from the nursery. It has been grown all summer, possibly two or three summers, carefully cultivated in "blocks" in the nursery. Such shrubs as require transplanting and pruning have been given the necessary care, so that they are, or should be, of even, shapely growth, with a mass of fibrous roots, instead of the long tap and branch roots which they would form if left to grow undisturbed. They are usually packed carefully enough so that the roots, even where most of the soil has had to be taken off, are still in good moist growing condition when received. If through delay, or for any other reason, the packing and roots are dry when you get them, place the roots, packing and all in shallow water in a pan or tub, and let them absorb moisture gradually, giving more if needed until they have soaked up all they will. Do not get the whole mass wet. From the time the plants are received until they go into the ground, keep them under a shed or elsewhere, protected from both wind and sun. If by any chance they have to be kept a week or so, dig a shallow trench in moist soil in a sheltered position and "heel" them in, first cutting the bundles and loosening the individual plants so that air can circulate among them. Plants that are left packed too tightly, especially if they can get wet, very quickly lose some of their

leaves through crushing and decay, if they do not receive more serious injury.

At the very first opportunity after the stock arrives, but preferably on a quiet cloudy day, it should be planted. The "border" for the shrubs, or the holes where individual specimens are to be set, should have been prepared beforehand, because it is important that the operation of planting should be concluded in as short a time as possible. Make a hole in the prepared soil large enough to accommodate the roots of the shrubs to be set in a natural position and without crowding. Any long straggling roots, or any which through accident have become injured, should be pruned back to convenient length or to firm wood. Set the plant in so that it will be slightly deeper than it grew before, and while holding it in an upright position with the left hand, work in fine rich soil about the roots with the right. Use the fingers, or a small blunt stick, to press the earth down firmly, being sure to fill up all crevices or air spaces. After the fine roots are covered up, so that there is no danger of bruising or breaking them, use the ball of the foot to pack the earth still more firmly. As the job nears completion, both feet and one's full weight may be used. The *surface* of the soil however should be covered with fine loose earth. This is to create a mulch to prevent the too rapid evaporation of moisture which, even at this time of year, in case of continued bright windy days, will all be needed for the plants. If the soil is so dry that water is needed, the best way to use it is to pour some into the hole and let it soak away before setting the plant, and repeat the operation after the hole has been half filled. Where water is not available for use in this way the roots may be dipped in water or very thin mud before planting to insure intimate contact between the soil particles and the roots.



Weigela is a reliable shrub for difficult situations, flowering well even in dense shade. The white form makes a fine specimen

I have said that the soil should be got ready before the plants are set out. The matter of fertilization for trees or shrubs is very important — much more so than with annuals. Especially should there be plenty of available plant-food in the soil for the first two or three seasons. After that they will be able to forage over a considerable extent for themselves. Well rotted manure, and bone—coarse and fine mixed in equal parts —should be added liberally to the border or to each hole. Two or three forkfuls of manure, and a handful or two of bone, will be enough for each shrub. Both should be mixed thoroughly with the soil, and kept well below the surface. Where a border is being prepared it should be plowed or spaded as deep as possible. If single holes are dug out they should be made two or three times as great in diameter as the ball of roots of the plant would necessitate. If there is a hard clay subsoil it should be broken up with a pick, or still better with a few charges of dynamite before planting.

In the nursery catalogues shrubs are listed alphabetically. In articles on landscape gardening they are usually presented in tables giving comparative data as to height, colors, time of bloom, etc. A classification much easier for the beginner to make himself familiar with is the following:

1. Shrubs suitable for low groups or foregrounds. Lily-of-the-valley shrub (Andromeda); Clethera; Heather (Calluna) and Heath (Erica), both requiring rather moist soil; Daphne; Deutzia; Spirea Thunbergii; Azaleas, especially in flowering beds.

2. Shrubs suitable for tall groups or backgrounds. Dogwood (Cornus florida); Red-bud (Cercis); Deutzia; Forsythia; Laurel (Kalmia); Lilac (Syringa); Honey-

Does not this convince you that a moderate investment in trees and shrubs helps to turn a house into a home? Compare this picture with the average house anywhere

suckle, (Lonicera); Stag-horn Sumac (Rhus); Rhododendron; Golden Elder (Sambucus nigra aurea); Spirea; Snow-ball (Viburnum); Weigela.

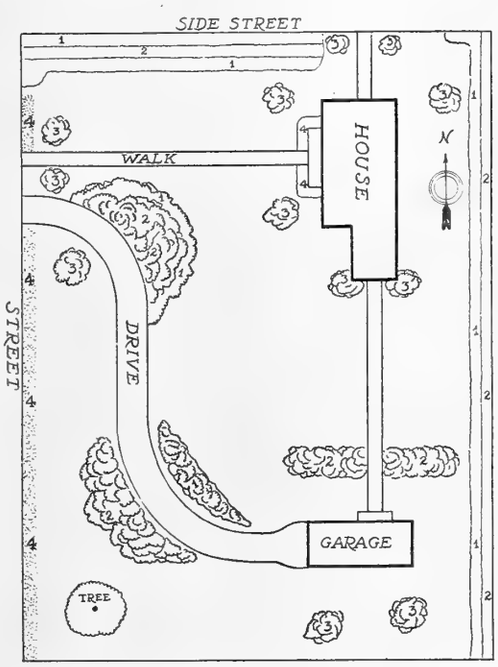
3. Shrubs suitable for single specimens both decorative and flowering. Rose of Sharon (Althea); Butterfly Shrub (Buddleia); White Fringe (Chionanthus Virginica); Hawthorn (Cratægus); Strawberry Shrub (Calycanthus floridus); Euonymus, especially E. Japonica. Angelica Tree (Aralia spinosa); Hydrangea; Japanese Maples; Mock Orange; Smoke Tree (Rhus).

4. Shrubs suitable for hedges and borders. Barberry (Berberis); Boxwood, especially for formal, trimmed hedges; Japan Quince (Pyrus); Privet; Rosa rugosa, especially for banks, and rough, hard to cultivate places.

The above list, while not long, offers abundant variety in the possible combinations which may be secured. With one or two exceptions, *varieties* have not been mentioned, as their selection, with the corresponding variations in season of bloom, color, height, etc., will depend upon the planting scheme into which they are to be fitted. The classification is of course by no means hard and fast. For instance, most of those mentioned in the first group may be used in the second, and to a large extent, vice-versa. But such a classification enables the prospective planter quickly to get an idea of the different shrubs available for any particular purpose he may have in view. The niceties of color schemes, succession flowerings, winter effects, he can study out as he progresses in the art.

There are a few simple basic principles which the beginner with shrubs should always keep in mind. The first is; *keep an open centre.* Never sprinkle your shrubs indiscriminately about, even in the belief that you can make a few go a long way by such a method. With the exception of the few single specimens which may be desirable, keep them in groups, or "borders," along the boundary lines, along paths or walks, or against boundary or building walls. If you have had no experience yourself, study the grouping of some planting that strikes you as particularly pleasing. There is no necessity to imitate. But you will find that the pleasing effect has been secured by so planting that the shurbs grow or blend into each other in natural curves and flowing lines, both as to height and position — "elevation" and "plan" as they are termed. A plan often recommended for securing this effect is to take stones or marbles of various sizes, and throw them, planting a shrub where each falls. The same device is recommend for naturalizing bulbs. This method may give better results than planting in straight lines, but I have always considered it a poor makeshift. Neither bulbs or shrubs are located by Nature in that way. A much better way is to make a sufficient number of stakes, of shingles or lath, or small branches, and by their proportionate length, represent the height of the shrubs to be set out. These may be readily shifted about until the basis for an attractive grouping is attained. Use the taller stakes, representing the larger shrubs, first, starting at the back of the grouping to be planned; or at the middle if the group is to have two "faces" or in other words, be seen from both sides, as would be the case with a shrubbery border planted along the front border of the place with no hedge or fence outside of it. Having set these, work forward to an artistic waving line, curved gracefully in and out at the front, or foreground. The simple suggestive plan herewith illustrates the use of all four of the various types of shrubs we have discussed, in positions similar to those which are likely to be encountered in laying out the grounds of the average place.

Plant shade trees now and have the advantage of their early growth in spring just when other people are moving their trees into place. Trees can be moved as soon as the season's growth ceases, and before the leaves fall



Idealized scheme for disposition of shrubbery and trees. References: 1. Low groups in backgrounds; 2. Tall shrubs on foreground; 3. Individual specimens; 4 Borders and hedges

Preventing White Grub Attacks

WHERE the destructive May beetles, or so called June bugs, were abundant last spring white grubs may be looked for in 1915. Beetles appearing in the spring of 1915 deposit eggs which hatch about a month after being laid. The young grubs feed on roots and decaying matter, but seldom do damage during their first year. However, the following year (1915 in the present case) they are larger, and feed almost entirely on living roots preferably corn, timothy, potatoes, strawberries, etc., causing great loss. The following spring (1916) they feed more or less but by June 1st or shortly thereafter they make earthen cells, become semi-dormant and in a fortnight or longer change to brown pupæ, and a month later to adult beetles, remaining there until 1917.

Grounds likely to be infested with grubs should be thoroughly plowed before October 10. The date of plowing will depend on latitude and the weather conditions, for the grubs go down as cold weather approaches and it is desirable to plow, when possible, just before they go down. Hogs, chickens and turkeys should be allowed to run in the field wherever this can be done.

The Easy Road to Success with Bulbs — By C. J. Hunt, New Jersey

A MANUAL OF PRACTICAL CULTURAL DIRECTIONS FOR FALL PLANTED DUTCH BULBS—SIMPLE PRECAUTIONS TO BE OBSERVED BY THE GARDENER

IF IT is always borne in mind that bulbous plants possess at once features of advantage and of disadvantage to the gardener, contributing at the same time an ease of culture and a positive need of simple precautions, then the production of perfect flowers becomes a question of knowing just what to do and just what not to do. Fortunately, the "don'ts" are fewer, so far as bulbs are concerned, than is the case with most other kinds of plants.

The formation of a fleshy bulb underground is Nature's sign of a store of food for the plant in such time of stress as may be occasioned by the bulb being too long out of the soil. While the new bulb is being formed each season, a new flower bud is also developed, and to this circumstance the simplicity of bulb-growing is due, for if the bulb has been properly grown to begin with, all that remains for the gardener is to choose the particular place in the garden where that flower is wanted. An unkindly soil or too vicious weather may prevent the bulb from doing its duty, and the "don'ts" of bulb culture apply chiefly to giving the bulb a fair chance against unfavorable situations or conditions.

THE RIGHT SOIL

The best soil we can give bulbs is, in most gardens, the soil that has never yet grown bulbs; but even this can be brought into better shape by adding sand, if it is a very heavy soil, or by enriching it, if it is too impoverished. A light loam is the ideal, and if rotted sod can be a large ingredient in the bulb beds, so much the better.

Spade the earth over deeply, at least fifteen inches, and at the time digging is done fork in a fertilizer composed of three parts of bone-meal, one part of Scotch soot, and one part of wood ashes. Stable manure must be avoided unless it is very old, well-rotted stuff and is placed deep enough so that it cannot come in contact with the bulbs. The soil should be dug some time in advance of planting, in order that it may be allowed to settle for two or three weeks if possible.

PLANTING THE BULBS

Where it is feasible, the earth should be removed at planting to the depth at which the bulbs are to be set, as thus all the bulbs lie at a uniform depth and will all flower at the same time. Spread a half-inch layer of builder's sand over the surface, place the bulbs upon this and then carefully replace the soil so that the bulbs are not knocked about as it is thrown on them. If this method of planting entails too much labor, the bulbs may be set in with a trowel or dibble, always taking pains that the bottom of the bulb rests evenly upon the soil. It is well to provide good drainage by dropping a little sand in the hole as it is made.

After planting, many kinds of bulbs are benefited by a light cover of leaves, salt hay, or other litter, which should not be put on the beds until the ground is frozen two or three inches below the surface. If done earlier, the protection may become the delight of field mice which find in the bulbs a palatable food during the winter.

Where mice or moles abound, it is well to plant moth-balls with the bulbs, for I know of no better deterrent to the ravages of these pests than roughly broken moth-balls scattered in the soil where they burrow. The litter should be removed early in the spring before growth penetrates the cover, as it is then more easily taken off and there is no chance of the growth becoming affected by fungus troubles, a risk that is quite possible where tulips remain too long covered. The surface of the soil should then be broken up lightly, taking care to avoid damage to the brittle young growth.

The culture outlined thus far applies generally to all classes of bulbs. Details of culture differ somewhat for the various kinds, however, and if the few rules noted below are observed, success is more likely to be attained.

HYACINTHS

Hyacinths are grown in Holland in soil that is almost a pure sand and in heavier loam they soon become diseased and disappear. New bulbs will bloom in any soil, but to build up a strong bulb for the ensuing year, sandy soil free from any manure is necessary. Annual lifting when the foliage has quite ripened must be practised, and the bulbs should be stored over summer in a cool, dry place.

Planting should be done before frost begins to bring down the foliage of such deciduous trees as the maples. The bulbs should be set not less than six inches apart and six inches deep measuring to the bottom of the bulb, where the largest sized bulbs are used; for second size bulbs an inch less depth will do. For bedding it is well to choose kinds that have a stem stiff enough to hold up the trusses without staking. The winter cover for hyacinths should be slightly heavier than for other bulbs.

TULIPS

Tulips may be grown in any soil provided perfect drainage is afforded. In a heavy soil the outer skin does not mature as well as in a sandier one, and when the bulbs are stored during the summer the protection of a firm skin is an aid in keeping the bulbs in the best condition until they are replanted. Plant so far as possible in virgin soil. Tulips become subject to disease if planted too often in the same soil; this is particularly true of the early kinds and the majority of failures is due to this cause.

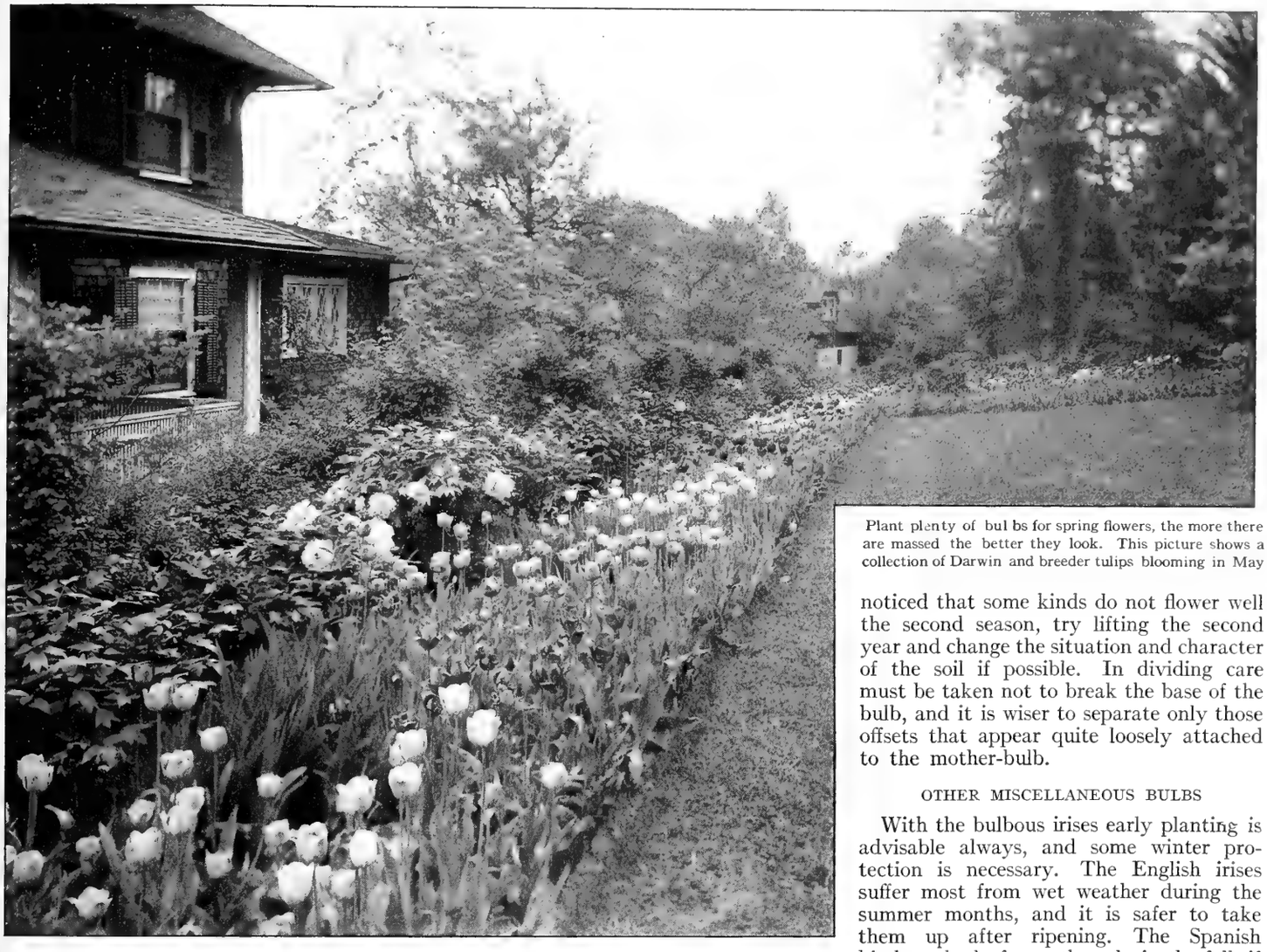
Planting should begin and be finished within two and three weeks after the maple leaves begin to drop from the first hard frost, and should always be done in soil that is not sticky from recent rains. The early kinds need not less than five inches each way between the bulbs, and should be set five inches deep; late tulips require more room and should be set not less than six inches apart and as many inches deep. A sand base is always advisable, and no water should stand on the beds during winter. Keep any animal manures six inches below the base of the bulb.

The covering should be very light and must be removed as soon as an inch or two of growth has appeared. In case of severe frost, following light snow or rain, some protection must be at hand after uncovering, as water often collects in the folds of the opening leaves, and freezing may destroy the flower bud just as it comes through the surface of the soil.

"Fire," as it is called in Holland, is a disastrous fungus disease which attacks the foliage as the bud is about to unfold. At the first sign of any brown spots upon the leaves, cut away and destroy the affected parts. As preventives for an attack of "fire," planting in new soil and being careful not to let the flower petals lie on the foliage or on the soil, to decay there after the blossoms fall, will generally hold the disease in check.

Early tulips succeed best if lifted each season after flowering. The late tulips may remain where planted with greater chances of

Be sure that the bulb rests on the ground and is not "hung". A little sand in the bottom of the hole helps drainage too



Plant plenty of bulbs for spring flowers, the more there are massed the better they look. This picture shows a collection of Darwin and breeder tulips blooming in May

successful bloom the second or third year, but this is dependent wholly upon their having found a spot to their liking. If the blooms decrease in size and fewer bulbs flower the second year, it can be taken for granted that the bulbs are protesting against their situation and it is wiser to lift them and replant in the autumn. This should be done when the foliage begins to assume a limp and withered appearance. A test of the fitness for lifting may be found in trying to wind the flower stalk about the finger; if this can be done roughly without breaking the stalk, the bulbs may be taken up at once. If summer flowering plants are to be used where tulips are grown, the bulbs may be carefully taken up as soon as they are through flowering, leaving as much earth as will adhere to the roots and covering them again with soil in some out of the way place to complete ripening.

DAFFODILS

Some of the daffodils, or narcissus, may be grown in any soil or situation. The white trumpet kinds prefer a little gritty character in the earth they grow in, and the blooms of all kinds last longer if a position in partial shade may be given them. In fact, many of the red-cupped kinds lose all their color in the full sun and need such a situation to maintain their striking beauty. Use no stable manure; keep to the general fertilizer as suggested, and if the red-cupped varieties do not seem to show all the color they ought to have, fork in lightly just after uncovering a dressing of sulphate of potash—say, an ounce to the square yard.

Planting should be done as soon as the bulbs can be obtained for the daffodil particularly dislikes being out of the ground very long. The closer one gets to the poeticus sorts the more imperative is the need for early planting, as these often make new root growth before the old roots have quite ceased to feed the bulb.

Because of the varying sizes in the bulbs no fixed rule can be given for the depth at which the bulbs should be planted. Set the largest ones six to eight inches apart, the smaller four to five inches apart, and cover the bulbs one and a half times their own depth measured from the base to the beginning of the "neck" of the bulb. In very light soils add an inch more of covering.

Daffodils should not be left in the ground longer than three seasons without lifting and dividing the bulb. Much depends on the individual variety, and should it be noticed that some kinds do not flower well the second season, try lifting the second year and change the situation and character of the soil if possible. In dividing care must be taken not to break the base of the bulb, and it is wiser to separate only those offsets that appear quite loosely attached to the mother-bulb.

OTHER MISCELLANEOUS BULBS

With the bulbous irises early planting is advisable always, and some winter protection is necessary. The English irises suffer most from wet weather during the summer months, and it is safer to take them up after ripening. The Spanish kinds make leaf growth early in the fall, if they have been left in the ground the second season, and freezing of this foliage is the most frequent cause of failure.

Crocuses are also better for early planting, frequently failing to flower if they are not in the ground when the top growth begins to show. Plant two inches deep to the bottom of the bulb, and give them a sunny position.

Scillas of all kinds succeed best in the shade, and need to be planted quite deep in comparison with the size of the bulb. Five inches is none too much. Give them a rich soil, and allow them to go to seed if a rapid increase is desired.

Snowdrops, *Chionodoxas*, *Grape Hyacinths*, and the graceful Camassias should be planted thickly to produce a good effect and be covered three to four times their depth. Avoid covering with too heavy a material, if winter protection is given them; cocoa-fibre is the ideal.

Ixias, in named varieties, are not grown as widely as they should be, partly because their beauty is not appreciated and partly because they are considered a bit too tender. They will go through the severest weather, nevertheless, if planted two inches deep and covered first with six inches of cocoa-fibre and then a cover of leaves.

Ever Plant Vegetables in the Fall? — By A. Kruhm, Ohio

EASILY GROWN CROPS THAT MAY BE GROWN THIS SEASON — SOME THINGS TO PLANT FOR EARLY SPRING — HELPING THE EFFICIENT GARDEN

THE average backyard gardener "goes to sleep on the job" with the approach of shorter days and cool nights. This apparently, is just what nature is doing and we mortals are all too willing to accept things as *they seem*, without stopping to investigate them as they *really are*.

The regular appearance of "chance seedlings" of radishes, lettuce, spinach, tomatoes and *even beans* started me thinking. Year after year, a number of volunteers would "pop up" somewhere in the garden. These volunteer plants would yield results from ten days to three weeks before the regular crops.

Whether the seeds from which these plants started, were spilled at the last regular sowing, or whether a stalk ran to seeds and scattered them broadcast, matters little. The fact remains that they proved to be sufficiently hardy and well enough protected to stay in the ground all winter, come up at the correct time in the spring, and furnish the earliest vegetables obtainable.

It is this particular fact which I wish to bring home to readers of THE GARDEN MAGAZINE, together with definite suggestions how to "cash in" on this lesson. Nature does a lot of planting every fall and we have been all too slow to learn the lessons. Before the leaves fall and the remnants of the plants are knocked down by storms, seeds fall and are buried in some obscure way. The thing for us to find out is, which seeds have the biggest chances for a survival in the face of trying weather conditions in different sections of the country.

I am only prepared to speak authoritatively for Ohio and states offering similar climatic problems. But the observations made here should prove a stimulus for experiments elsewhere. At any rate, everything is to be gained, very little can be lost.

A START FOR NEXT YEAR

Start next year's vegetable garden now by clearing the ground of all rubbish, dead plants, stalks, etc. Rake everything in a heap and burn it. Spade deeply, as in the spring. This will bring to the surface some of the now well-rotted manure dug under last spring. Rake it carefully and wait until the weather man predicts weather that will freeze the ground hard. Just before this happens, get busy and sow lettuce, mustard, spinach, carrot, smooth-seeded peas and radishes.

These are the particular vegetables that have come through the experiment in splendid condition in this section. Ignore the fact that it is fall. Prepare the garden just as you would in the spring, taking care that all seeds are well covered. If Indian summer should be unusually long and some of the thriftier seeds should start growing, it will save you the trouble of thinning out the rows next spring.

Of the vegetables mentioned, spinach will make a good growth, sometimes, if sown early in October. But since it is a rather hardy vegetable anyway, this need not discourage the gardener. Just scatter coarse manure, four inches deep, over the spinach rows and the plants will come through the winter nicely to furnish the first "greens" next spring. A particularly frost-resisting sort of spinach is Munsterland, with deeply laciniated leaves, not unlike those of dandelion.

In selecting sorts for fall sowing, please keep in mind the season during which these vegetables are to mature. It would be waste of time and money to sow late sorts which, in most cases, require a good

This semi-coldframe in an Ohio garden, last fall was placed against the north fence and yielded crops well into the winter

deal of warmth to mature. Besides, extra early spring sown sorts would beat them in time of maturity and the present fall activity, would count for nothing.

Among lettuces, I know no sorts that will beat Earliest Wayahead, Naumburger, and May King in this connection. All are hardy, stand cold wet weather well and mature quickly. Of mustard, I prefer Elephant Ear to all others. They ought to have called it "pot-filler." Besides Munsterland spinach mentioned above, Triumph or Long Season will come through the winter admirably, though it has much fleshier leaves and requires more protection.

Of carrots, Chantenay, and Danvers, the two most reliable stand-bys, answer admirably. Be sure to sow only *smooth* seeded peas in the fall. Alaska, First, and Best, or Pedigree Extra Early will do, although I believe the last named is of greater productiveness and better quality than the other two, if we can talk of quality in an extra early smooth-seeded pea. Of radishes, choose Rapid Red, Scarlet Button, or Vick's Scarlet Globe—all extra early spring sorts that mature in the order in which they are mentioned here.

Cleared for action in the fall (Nov. 10th). Newly made vegetable bed next the back fence. Dry leaves ready in the barrel in the corner

OTHER VEGETABLES FOR FALL PLANTING

The above do not represent by any means the complete list of vegetables that may be started in the fall. Rhubarb roots and horse radish sets planted in the fall will give splendid returns the following year. By setting out asparagus roots this fall you gain practically a whole year. Incidentally, do not plant roots that are three years old or older. All experienced gardeners will tell you that two year old roots are the most satisfactory all around. If your seedsman can supply them, set out Egyptian Winter, Multiplier and Potato Onion Sets. All are perfectly hardy and are bound to furnish the very earliest green spring onions next season if planted now.

USING THE BACKYARD GARDEN THIS WINTER

For those who keep chickens, here is a scheme to make the backyard garden keep down the cost of chicken feed. After clearing the garden and either spading or plowing it, sow part of it to oats, and part to rye or else to Dwarf Essex rape or hairy vetch (*Vicia villosa*). All these forage plants make a quick growth during the cool fall months and should provide plenty of feed throughout the winter, since all are quite hardy.

Even if chicken keeping is *not* on your programme, it will pay you to either dig the ground and let it lay in rough chunks or to level it and sow it to rye, oats, or vetch. If you let the ground lay in a rough condition, it will freeze up hard and this thorough freezing will not only sweeten it, but will put it in fine mellow condition for next spring. If you sow it to oats, rye, or vetch, you may turn them under as green manure next spring and vetch will, in addition, add nitrogen to the soil, since it absorbs that valuable element from the air and stores it in the soil.

LENGTHENING THE FRESH VEGETABLE SEASON

Part of the bare ground now in the garden may readily be converted into fresh vegetables. Fix up a box-like structure of 12-inch boards, making it the same shape as a hotbed frame. If a solid fence guards the north side of your property, you can lean this box right against it, thus saving lumber for one side.

Drive short strong posts about six feet from the fence, letting the ends of posts stand about twelve inches above the soil. Nail boards against these posts and fasten boards with cleats to the fence and your box-like structure is ready. Next, get some well-rotted, reasonably fresh manure and spread it to a depth of five inches into this frame. Tramp it down tightly and spread about four inches of good garden soil on top of it. You now have a bed that is something like a coldframe and yet, it does better work, since the manure underneath will generate just enough warmth to cause a quick germination of the seeds for which the bed is now ready.

For immediate use, sow radishes, like Rosy Gem, Rapid Red and Crimson Giant. Lettuce Early Curled Simpson grows quickly to good size. Of beets, sow Eclipse, Crosby's Egyptian, and Detroit Dark Red. You may even plant some onion sets of any sort obtainable into this frame and feel sure of good results. Since all of the vegetables and varieties suggested are of very compact growth, the rows may be placed quite close together, thus affording maximum returns from minimum space. The accompanying picture shows my semi-coldframe of last fall against the north fence of my backyard garden.

With the approach of cold nights, this frame is covered with either glass sash or boards, mats or anything to keep out the cold, and uncovered in the morning to let the sun do good work all day; covering after sun goes down. When very cold weather sets in, bank up the sides of frame with dirt or coarse manure or leaves. Place old boards against the latter two to prevent the wind from blowing them away.

PARSLEY AND RHUBARB ALL WINTER

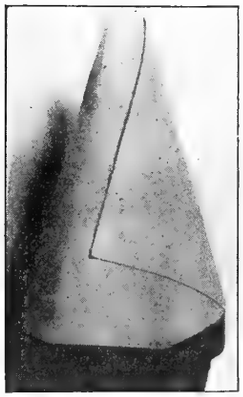
Cut back the row of parsley in your garden to within two inches of the top and cover it with one of your (now empty) porch boxes. It will keep right on growing, if, during very cold weather, you take care to cover the row with additional boards or mats or burlap. Should you be reluctant to go to all that trouble, dig up half a dozen roots and plant them either in pots or in a deep box. Those may be kept in the kitchen window or near a light, sunny cellar window and they will produce parsley all winter if the temperature is warm enough to induce growth.

After the first real hard frosts freeze the ground solid, go into your garden with an ax or a strong spade and lift one of your largest clumps of rhubarb roots. Bring it into the cellar and put it in a barrel, frozen soil and all. Keep about six inches of sawdust or straw in the bottom of the barrel. This will absorb the moisture, as the lump thaws. Place the barrel within ten feet of the furnace, not nearer. Gradually, the rhubarb clump will send forth tender, delicate sprouts. If the clump is large and of strong vitality these sprouts will grow to be an inch in diameter and fourteen to sixteen inches long. I have known a good sized clump to produce three dozen stalks of good size, before its strength became exhausted. Bought in the open market, they would have cost at least $2 and freshly stewed rhubarb tastes twice as good around Christmas time as it does during May.

Spiking vs. Tying Tomatoes

PROBABLY everyone knows that the earliest and finest tomatoes are secured when the vines are trained up poles. But instead of tying them up with string or rafia time may be saved by simply spiking finishing the vines to the poles with ordinary wire finishing nails. Some injury to the vines would naturally be expected, but I can testify from long experience that absolutely none need occur. A fairly sharp nail, inserted in the tough portion of the vine some six or eight inches back from the crown bud, simply sparates the fibres without intefering with their normal functions at all. I have nailed hundreds of vines right out in the hot sun without having a single leaf wilt. Best of all, the vines stay in place with their increasing load right through the season, and do not thrash even in high wind. Of course the vines should be trained to a single stalk by pinching out the laterals.

Maine. C. M. G.



This cone covers a hyacinth to help "draw up" the flower

Growing Bulbs in the House

By Nina R. Allen, Ohio

THE SURE ROAD TO SUCCESSFUL CULTIVATION OF BULBS IN POTS, OR IN GLASSES—THE REASONS WHY MANY FAIL TO GET GOOD FLOWERS

This plant was covered by a pasteboard cone

WITH little time to care for house plants, with all their varied requirements; with, perhaps, the added disadvantages of a hot-air furnace, the hardy bulbs seem to me more desirable for indoor gardening than any other growing things in common use, excepting Pandanus and Araucaria, and like these foliage plants, they will endure conditions that many greenhouse aristocrats find intolerable, without either sulking or taking to red spider or some other inglorious means of exit from an unkind world.

Bulb culture is simple, but there are few points that mean success or failure as they are heeded or disregarded.

Always buy good bulbs. It is possible there are bargains in bulbs, but it is better to purchase them of a dealer of known reliability who has a reputation to keep up than to run the risk of failure for the sake of saving a few cents. Then, too, you may select from the seedsman's stock named varieties, and knowing what you have bought not only adds to your pleasure when the blossoms appear, but it is a great advantage when you decide as to next years' purchases.

FOR EASY SUCCESS

The bulbs most successfully forced by beginners are these: hyacinths, the Roman and single Dutch; the double narcissus, Van Sion, commonly called double daffodil, and Orange Phoenix; the trumpet narcissus, Giant Princeps, Emperor, Golden Spur, Glory of Leiden, Victoria, Trumpet Major, and Horsfieldi; the chalice cup narcissus, Incomparabilis Cynosure and Stella; the poet's narcissus, Ornatus and King Edward VII; the jonquils. The polyanthus narcissus, Paper White Grandiflora, Grand Soleil d'Or, and Chinese Sacred Lily are easily managed either in soil or in water with pebbles. The latter way is the one generally chosen by amateurs, both for speed and facility.

Tulips, as a general thing, are not a wise choice for beginners, but the single, early flowering red-and-yellow Kaiserskroon is not difficult, and as more satisfactory, even among florists, has largely superseded the double tulip, Tournesol, of the same colors, once so popular. The Duc Van Thol varieties are also recommended for forcing, as being earlier and more tractable than most sorts. These tulips can be had in rich rose-pink, scarlet, and white. If one must have some double tulips, let him try Murillo, a lovely light pink, which is forced with comparative ease even by a tyro. All tulips must be potted early--before the first of November for best results—and they should be kept in the dark for three months if possible, and must develop in a cooler atmosphere than that required for hyacinths and narcissus when brought to the light.

Lilies-of-the-valley and Easter lilies are perhaps best omitted from the amateur's list until some skill has been acquired from experience, but almost any one can succeed with freesias, delightful Cape bulbs, requiring different treatment from these hardy Holland sorts.

WHY HYACINTHS WIN OUT

In my opinion, the single varieties of the Dutch hyacinths are far more desirable than the double kinds, as they have not the clumsy, clublike look of the former, due to overcrowding on the spike, while the bell-shaped flower is more beautiful in form than one doubled out of all grace and individuality.

Bulbs of the first size are preferable, but those of the second, if obtained of a reliable dealer, will also give good results, and a saving of one third is generally made by their purchase. When buying of a local seedsman, see that the bulbs are firm and heavy for their size.

Among single white varieties, La Grandesse, and L'Innocence are worthy sorts, having large trusses of snowy blossoms.

Cardinal Wiseman is a bright rose-pink of a most lovely shade, entirely lacking the disagreeable tone of the so-called red hyacinths, some of which recall the reddish-pink of calico seen now only in the patchwork quilts of an elder generation. Gertrude is another good pink of a somewhat lighter shade, while Gigantea is so pale that it is little more than tinted with that delightful color.

Most of the hyacinths called blue by the dealer appear to me to be purple or lavender, but quibbling as to the color does not seem worth while when their beauty is considered.

The king-of-the-blues, described as a rich deep blue, is a most beautiful dark shade, whether purple or azure; and Grand Maitre, set forth in some catalogues as deep porcelain-blue, is fine, though to me it looks an exquisite lavender. Both of these varieties are strong growers with good trusses of blossoms. Czar Peter is also a fine light sort.

The yellow hyacinths, even when described as golden-yellow, as in the case of the King of the Yellows, proved in my hands to be a pale buff.

General Pelissier, listed as an intense crimson-scarlet, is an example of the red that I find unpleasant, though some may admire it.

WHEN TO POT BULBS

The best time to pot bulbs for winter-blooming is in October, preferably as early in the month as possible. This is a general rule. Some sorts may be potted at intervals up to New Year's Day for succession, if they can be kept from making top growth. Paper White narcissus and the sacred lilies can be started in water as late as the middle of January, if the bulbs are in good condition. Nevertheless, October is the best time for potting, just as it is for outdoor planting. It seems to be the natural time for bulbs to go underground; and potted then, they have a sufficiently long period for root growth, and will blossom their finest when we are most eager for flowers. During the months following October, if out of the soil, the bulbs are constantly losing vitality.

The place where the bulbs make their roots: a shaded sheltered spot. The potted bulbs are set in a shallow pit with leaves over them and boards over all

HOW TO POT BULBS

Earthen pans have a neater appearance than pots, but either will serve. They should be well soaked, if new, and thoroughly scrubbed with strong soap-suds, if old. Provide for good drainage by placing a layer of charcoal broken in small pieces over the bottom, with sphagnum moss above it. The potting soil is important. If it is not loose and fine, hyacinths will not root well, and the flower spikes will then be so short that the blossoms will be down among the leaves, close to the soil.

If one lives in the city, I think it is advisable to buy potting soil of a near-by florist, but if one do prepare it use equal parts of good garden loam, sand, and well-rotted cow-maure. If the latter cannot be obtained, use finely ground bone meal as a

fertilizer, allowing a teacupful to a half-bushel of soil. One part of leafmold or compost from rotted sods to two parts each of loam and sand should be used with the bone meal, to provide humus. When the pots are ready to set away, the soil should be within an inch of the rim.

Bulbs in bloom look much better in groups than planted singly. When the dimensions of the pot will allow, from four to a dozen should be together, according to the size of the bulb. It takes from four to six of the Roman hyacinths to make a satisfactory show, and less than six or eight crocus are hardly worth while. Six, eight, or a dozen tulips should bloom together. If the bulbs touch, no harm is done. When potting, scoop out a place for each in the soil, adapted to its size, and set it in, filling in the soil and pressing it firmly against the sides of the bulb. In the case of hyacinths, the top of the bulb should be left just above the soil. Tulips, narcissus, and crocus should be covered an inch. Firm the earth around and above them.

When bulbs are pressed into the soft earth in the pots, as is often advised, the soil is left loose around them and is made firm beneath, and frequently the roots, on forming, push the bulb up instead of penetrating the earth, as they should do.

After the bulbs have been potted, water them thoroughly. It is well to cover the surface of the soil with sphagnum moss, as this tends to conserve the moisture.

WHERE TO STORE THE BULBS

Place the pots in a cool, dark place. A cellar where the mercury does not rise above 60 degrees will serve. A lower temperature is still better for most, and is necessary for tulips and crocus. Set them in the darkest corner and lay boards or a piece of old linoleum or something similar over the tops of the pots to exclude all light. If mice are given to surreptitious visits, weight the coverings. Once in a while inspect the bulbs, and if the soil is dry enough to crumble when stirred, water well. If moist, it needs no water. Too much moisture at this time breeds decay. If the cellar is too warm, a cool, dark closet may be utilized.

The bulbs may be left out-of-doors. A shallow pit may be dug in a shady place, and they may be set into this, with ashes beneath them, the rims of the pots being a few inches below the general level. After the ground freezes, they must be covered with some straw or a mulch of leaves, held in place with boards; and as the weather becomes colder, the covering must be made heavier. Where field-mice are troublesome, an upstairs porch is a good place for the bulbs. The pots may be set in a box and protected as described. The bulbs may be planted in good soil in the open ground or in a coldframe and mulched as when in pans. During a January thaw, they may be taken up carefully and potted. The better way, however, is to place them in pots at once, as otherwise the roots run some risk of mutilation.

CONCERNING ROOT GROWTH

Most writers state that eight weeks' time will be required for satisfactory root-growth. In my opinion, three months is little enough for some. A period of four is better if the place of storage is cool enough to permit so long a stay. The production of long spikes and fine flowers largely depends on the making of good and plentiful roots, and this takes time, and must occur before top-growth begins if the blossoms are to be satisfactory. Light and heat cause the bulbs to sprout like onions kept in too warm a place, wherefore the need of darkness and a low temperature.

Seventy-five per cent of the failures with bulbs are due to forcing the top before the roots have made growth. High temperatures are fatal. Look for roots protruding through the hole in the bottom of the pot. Then it is safe to begin with forcing

THE SECOND STAGE OF DEVELOPMENT

The bulbs must not be too suddenly introduced to a higher temperature and a greater amount of light.

When they have been in the dark three months, it is well to bring them forth at intervals of two weeks, two or three pots at a time. You may begin to do this at the end of eight weeks. A great deal depends on the temperature of the cellar or closet where they are stored. Bulbs differ, too, in the rapidity of their root-growth. Roman hyacinths are likely to be sufficiently advanced at the end of six or seven weeks.

When the pots are full of roots, sprouts will push up from the crown of the bulb. When these shoots are about an inch high, it is safe to remove the pots to a warmer and lighter situation. But they should not be placed in direct sunshine at this time. The light should be subdued. Some claim that when the flower buds begin to develop they must have full sunlight for perfection of color and bloom, and cite narcissus as a special case. But last winter my double narcissus, Van Sion, were brought from a cool closet to a window having a good light but no direct sun; they were then set on a table opposite curtained windows, shaded by a porch, with the only strong light coming in from small north windows. Yet their color could not have been better. Hyacinths, too, are never placed by me where the sunshine will fall directly upon them. If at a west window, it is at once shaded by drapery when the sun is shining in from that side. A north window, with the curtains pushed back, and nothing outside to obstruct the light, is really preferable.

COMMON CAUSES OF FAILURE

If the temperature of the room to which the bulbs are brought is rather high, the development of the spikes and the flowers upon them will not be as fine as if it were lower and their growth consequently less rapid. A temperature of 55 degrees at first, followed by one of fifty degrees after the flowers have developed in form and color is what is best for most bulbs. The crocus, like tulips, should never have more than 40 to 45 degrees of heat at any time.

The high temperature of our living-rooms is the reason for the swift passing of these lovely winter-flowering bulbs. Apartments where a thermometer would not register seventy degrees are, I fear, greatly in the minority.

Too sudden a jump to higher temperature and to strong light is another cause of the stemlessness of hyacinths already mentioned. The flower spike should emerge through the neck of the bulb with its buds folded tight and flat against it. Brought to a bright light at first, the buds swell and open out prematurely under the stimulating influence of the sun, and get stuck in the narrow gateway. It is always well to place a cone of pasteboard or heavy paper, with about an inch of the apex cut off, over each pot of hyacinths. The flower spikes will "draw up" toward the little patch of light above their heads, just as seedlings do when grown under unfavorable conditions, and the passage will be made in safety, with good long stems assured. The cone must be removed when the stem can be seen below the buds. The application of the cone is not necessary with other bulbs, though experimenting with daffodils and tulips, I found it helpful, placed for a few days, in promoting vertical growth and long stems.

In the hot, dry atmosphere of our homes, these bulbs are sometimes afflicted with a plague of aphides which appear from nobody knows where. Dishes of water evaporating on registers or radiators will help to make the air moist. Tobacco is both an insecti-

cide and fertilizer and has a tendency to keep the soil in the pots soft and moist when placed on the surface. It should be applied as a preventive of "green fly" when the pots are brought to the rooms where the bulbs will bloom. In the case of tulips, which these pests find especially appetizing, it is better to use it when potting them.

I have known folks who thought it neither a high crime nor a misdemeanor to take surreptitious teaspoonfuls from the tobacco-jar of a Certain Person, since it was done for the welfare of the flowers. (And besides, it is not good for Him to smoke so much).

After the bulbs leave the cellar or dark closet, the soil must be watered thoroughly and as often as is necessary to keep it wet to the point of saturation. The sphagnum moss applied to the surface on potting, if retained, helps to promote such a condition.

Sometimes, the bulbs need staking. This is more likely to be necessary when they are subjected to the enervating effects of too high a temperature, or to a strong light from outside. The flower stalks grow tall at the expense of strength, and need a prop in the one case, and "draw" toward the window in the second.

I have found that a good deal of this drawing takes place at night. The bulbs will draw toward an electrolier if in the same room at a little distance, or if in a dark room opening into a lighted one; or toward an arc light outside after the house is dark. Sometimes they can be gently pushed back to erectness, but it is not easy to coax them back to the perpendicular when they have departed far from it. A light-proof closet at night is a wise preventive measure for bulbs likely to be so affected.

These directions may sound as if forcing were a difficult process, but it is as easy as two and two are four if one will but remember the essentials:—

1—To buy good bulbs.
2—To procure suitable potting soil.
3—To provide perfect drainage.
4—To allow plenty of time for root-growth.
5—Not to water too much during this period.
6—To bring them gradually to the light.

The two bulbs most easily forced in soil are in my opinion the white Roman hyacinths and the double narcissus, or daffodil, Van Sion. The Roman hyacinths may be potted every two weeks up to the middle of December for a succession of bloom. On account of the ease and rapidity with which they are forced, they make most desirable Christmas presents. And what more delightful gift can be prepared for the invalid or for the worker in office or store than a pan of these lovely things, in themselves a message of love and thoughtfulness? And what else so beautiful costs so little in effort or money?

The double daffodils, faintly fragrant, make a delightful Easter gift. These, too, may be potted for succession. I have placed them in soil as late as the eighteenth of January. All bulbs reserved should be kept in a cool dry place, wrapped in thick, dark papers. Sprouted bulbs will not give good results.

BULBS AFTER FORCING

What to do with the bulbs after they have bloomed is a question that vexes the soul of the flower-lover, especially if it is an economical soul.

Few of them are worth keeping, for they cannot be depended upon to force again. Most of them should go to the compost heap, but the hyacinths, the Van Sion, and trumpet narcissus may be allowed to ripen their leaves as they stand in the pots, when they should be removed from the soil and stored in a cool, dry place until October. They can then be planted in some inconspicuous place in the garden, and in the course of time, recovering from the strain put upon their constitutions by forcing, they will brighten some quiet corner with blossoms, not so fine as they once put forth, but still worth having.

FREESIAS, CAPE BULBS

The freesia has graceful and very fragrant blossoms. Every one wants a pot or two, holding from six to a dozen, for the sake of their delectable perfume. These bulbs, also, are adapted to potting for succession. Their culture differs in two important particulars from that of the Dutch bulbs. Unlike them, the freesia when potted should be taken directly to the light, and though it demands a cool place, it needs plenty of sunshine, without which it becomes spindling.

BULBS IN WATER

The Chinese and golden sacred lilies, the paper white, and other polyanthus narcissus are the ones most commonly grown in water. The double daffodil, Van Sion, and the named varieties of crocus are also amenable to such treatmnt.

All brown and discolored skin should be removed from the bulbs. Gash the Chinese and golden sacred lilies half an inch deep, making three or four lengthwise scorings. A sharp paring knife will serve for the operation. One must be careful not to cut deep enough to reach the embryo in the bulb.

Place from three to six bulbs in a shallow glass bowl—the less pretentious the better—and use pebbles enough to keep them steady with a few pieces of charcoal, and sufficient water nearly to fill the bowl, leaving the necks of the bulbs above the surface. The process of sprouting seems to cause some shift in position; therefore use plenty of the pebbles, which may be bought at the seedsman's. Set the bulbs in a dark closet, and add more water as evaporation makes it necessary. When the tops are two or three inches high, the bulbs are likely to be ready for the light.

It is as needful for these bulbs to make a good root-growth, if one is to have fine flowers, as for those grown in soil, although not so long a time is required for the process. Therefore, leave them in the dark from two to four weeks, according to the temperature of the closet.

The golden sacred lilies are supposed to be the slowest of all in starting roots, but I found that the gashing not only greatly facilitated this, but that the top growth was much more vigorous for that preliminary, each bulb throwing up two or three strong shoots; and the flowers were fine. These bulbs were kept in the dark for two weeks. At the end of another fortnight, they began to bloom; the close of a third brought the finis of their blossom time. A bowl of six mixed polyanthus narcissus, among which there proved to be two of the golden sacred lilies, subjected to precisely the same conditions with the exception of gashing, turned out to be not nearly so good. Another year, I shall administer this treatment to paper white narcissus. These bulbs, not gashed, but placed in the same dark closet with the sacred lilies for two weeks, produced very inferior flowers, and investigation later showed poor root growth.

American Rose Society

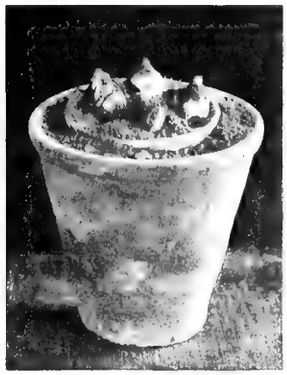
TEST GARDENS — THE HUBBARD MEDAL

ONE VERY gratifying part of the proceedings at the meeting at Boston on August, 20th was the presentation to M. H. Walsh of the Gertrude Hubbard Memorial Medal in gold. This is to be awarded every five years to the raiser of the best American rose within that period. Mr. Walsh received the first award of this medal on account of Excelsa, the crimson red Wichuraiana hybrid climber which, for the world at large, is everything that Crimson Rambler is and a good deal more. Excelsa has persistent glossy foliage; the color does not fade to a bluish cast, and it is a rampant grower of the general vigor of the group to which it belongs.

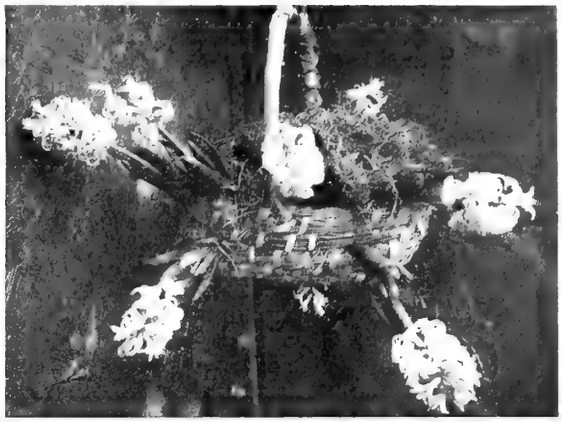
A silver medal of the society was awarded to John Cook for Radiance (H. T.), which was characterized by President Pierson as the finest Hybrid Tea rose in our gardens to-day.

A report was made on the organization of Test Gardens in coöperation with the society, and it was decided to appoint a local committee of three members for each garden established or to be established. These local committees to be under the direction of a general Test Garden Committee of three to be composed thus: One member of the Society's Executive Committee; one amateur rose grower; one to be appointed by the President. The object of these test gardens, located in various parts of the country, is to derive accurate information on the behavior of the same variety under different conditions with a view of ultimately being able to present to the rose growing public accurate reports for each locality. The movement started two years ago, and at the present time there are four trial gardens established as follows: Elizabeth Park, Hartford, Conn.; Minneapolis, Minn.; Cornell University, Ithaca, N. Y.; Arlington Farms, Dept. Agriculture, Washington, D. C. The American Rose Society does not assume any responsibility for these gardens, but coöperates in gathering together any codifying result of the individual gardens.

Hyacinth bulbs in a moss-covered sponge



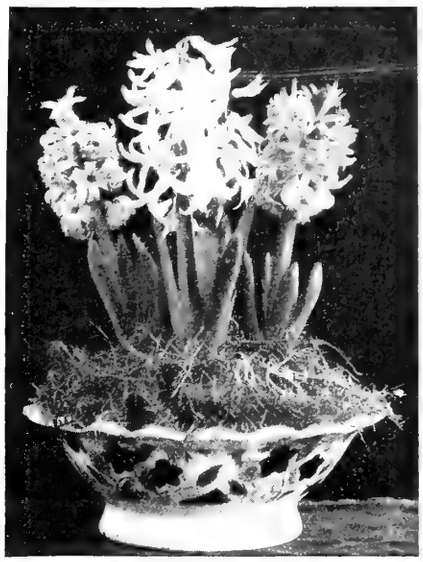
A pot of bulbs within a pot. The space between to be filled by a hanging plant which hides the pot



Bulbs growing in an old basket. Hang in a light position

Bulbs growing in a large shell filled with fibre. Cover the surface of the material with moss

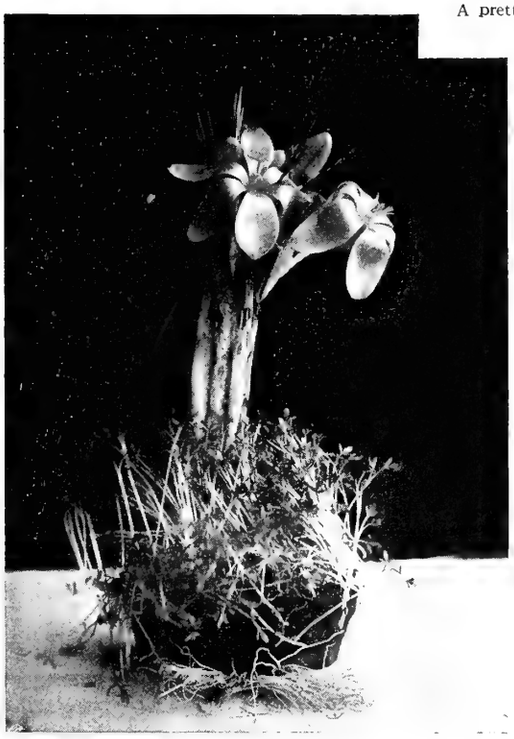
A pretty effect is obtained by growing bulbs on corks, which are floated in a bowl of water



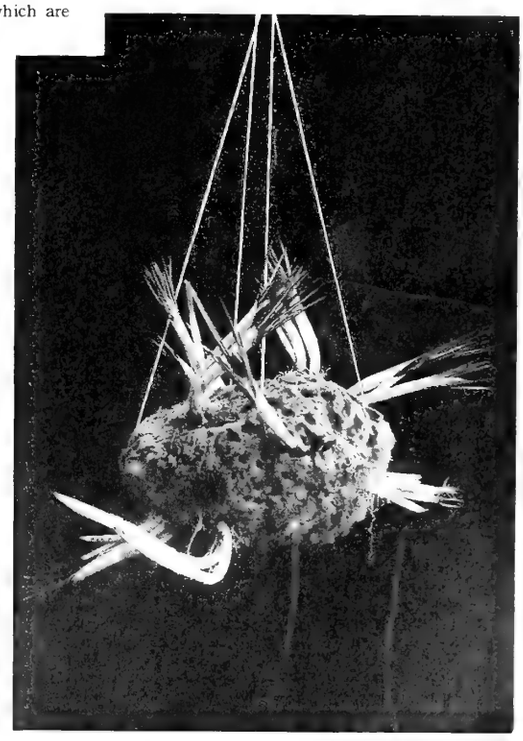
Bulbs grow well in fancy bowls without drainage, if planted in fibre

SOME NOVEL WAYS OF GROWING BULBS

Photographed by
S. LEONARD BASTIN



Cover the cork on which bulbs are placed with moss, or seedlings may be induced to grow



Crocus bulbs in a sponge. These will grow freely if the sponge is kept moist

Saving the Summer's Outdoor Plants for Winter Bloom Inside

By Luke J. Doogue, Massachusetts

SOME THINGS THAT MAY BE LIFTED FROM OUTDOORS AND WHICH WILL CONTINUE TO FURNISH THE WINDOW GARDEN DURING WINTER—STORING THE TENDER ROOTS AND BULBS

How the nasturtium behaves in the winter window garden

PRACTICALLY everything now growing in the garden may be saved for another year, excepting, of course, the true annuals that die after they have perfected their seed. Many plants, such as salvia, though handled as annuals, are really perennials. Save your plants, either for fall and winter flowers in the house or to provide "stock" from which to start the next year's supply. Everything told about here I have done myself, and there is so little that is technical that the veriest tyro must succeed. Just about the time that frost comes in the fall, the average window garden is a sickly affair, with few respectable plants and worse flowers; and the worst of it is that this lack of flowers continues well toward spring. This condition is caused by a want of planning and a consequent scramble to get things under cover when the first freeze comes. At such a time the garden is torn apart without much consideration; some things are saved, but the best part is left out to freeze.

Do a little planning before cold weather arrives. Decide what will be the disposition of each—this one to use in the house (particularly those in flower), that to go into immediate storage, and others must be thrown away. There is no economy in saving plants that can be easily raised from seed in spring. The average garden will have, say, asters, marigolds, nasturtiums, balsams, zinnias, tobacco, cosmos, vina, salvia, ageratum, cannas, dahlias, fuchsias, etc. Some of each of these can be taken right into the house where they will continue flowering for weeks without a check. It is like shifting your show from the outside to the inside.

Handle the low growing things first. Do you remember what a blaze of color the French marigolds showed last year just before the frost, and with what great regret you saw them cut down in their prime? This year put them in the window box. Prepare the box with drainage, etc., and then drive a spade deep under the plants to be lifted, taking as much loam as possible with them. Carefully put the clump into the box and firmly press down the earth. Then water thoroughly. If the work is carefully done, the marigolds will not experience the slightest check. Practically all the other small flowering plants will respond to this treatment.

SALVIA FOR WINDOW DECORATION

A plant of salvia with a spread of five feet can be lifted and taken into the house without any trouble. The plant in the picture on page 93 was as large as this, and it bloomed through the entire winter. The only care necessary in lifting lies in the manner of putting the spade under the plant. Go down deeply and pack the earth firmly about the roots in the pot before watering. A light watering will not do. Water until the water runs through the bottom of the pot. This experiment will more than please you for the plant will throw flowers just as freely as it did out-of-doors.

FLOWERING TOBACCO

Another tall grower that is decorative and can be handled this way is the tobacco plant, both alata and Sanderæ. Here again it is only necessary to remember the firming of the earth and the watering. If these are watched there will be no trouble. The picture shown was taken in the late spring after the plant had been a whole winter in a sunny window.

The geranium is kindly disposed. You may keep it growing in the window or dried off in the cellar

LIFTING NASTURTIUMS

Though the nasturtiums will not do as well lifted as they did out-of-doors, yet they will live and send out leaves and a few flowers. The sunnier the window where they are kept the greater the success. Select a plant not too large. Pick out a medium sized one and dig under it like the other plants; soak and soak again with water.

A few cheery flowers in winter may be easily provided now

BEGONIAS

Begonias of the Vernon type will flower all winter in a good sunny location, and a few plants will furnish sufficient cuttings for next season's supply of plants. This plant will stand very rough handling. If you don't want it for flower in the house it can be packed away in the cellar in a box, where it will winter well.

STORING IN A CELLAR

A cellar that is cool (about 40 to 45 degrees) is excellent for storing plants through the winter. With winter storage the idea is to keep the plants just alive. Pack the plants in boxes and cover the roots with loam. Keep the earth from getting bone dry by occasional light waterings. An over supply of water will quickly rot the plants but judiciously applied ensures success.

Dahlias, cannas, fuchsias and stock that you cannot use in the house should be put in storage in the cellar.

Do not be in too much of a hurry to get the dahlias under cover. The first frost is generally so light that it will do them but little harm and after this freeze we are apt to have some of the most delightful weather of the whole year. Let your dahlias stay out and you may be surprised at the number of flowers; this light freezing seems to stimulate the plants into their best efforts. When the black frost really cuts them down clean off the stems to within six inches of the roots, and pack them away in sand in the cellar. There is nothing better than sand for storage. Some people use sawdust for this purpose but these same people usually complain of the poor condition of their dahlias. Coal ashes will also serve.

Put away your cannas in practically the same way.

Fuchsias will stand rougher treatment. After taking up the large plants from the garden pot them and dry them off until the leaves fall. Then put the plants in storage

in the cellar. You can put them in boxes instead of potting but in this case remember to pack the loam well about the roots. A little water once and a while must be given to prevent them from getting too dry. Remember however, to keep the plants away from the furnace.

I have known people carry over old salvia plants from year to year in their cellar. Some of these plants are very large and make a glorious show during the summer in the garden. The plants are packed in boxes with loam, and in the spring the branches are cut back. Well rotted cow manure and bone meal are used freely when planting out in spring. These plants make a wonderful show and seem almost too large to be salvias.

GERANIUMS IN THE CELLAR

Keep the best of your geraniums. What you cannot use in your windows store in the cellar. There is positively no difficulty in the matter of storage, in fact it is almost an impossibility to kill old geranium plants if given half a chance. Frost will spoil them to be sure, but in the ordinary cellar the plants can be successfully carried through the winter. When taken from the ground pot them or pack the roots in boxes. Cut down the branches until the plant is reduced to a stump. A little water during the winter will insure success. Geraniums like the cold and the rest in the cellar will make fine plants of them the next season.

In March take out the geraniums and pot them and start into growth in a sunny window. They will quickly make new wood and this new growth can be taken off with a sharp knife as cuttings. These cuttings put in sand in a sunny window will quickly root. They are then to be potted in small pots. The young plants will make first size and first class plants by June. This is much better than putting out the old plants that you have saved over during the winter. Of course it will be necessary to shift them into larger pots twice or three times as they grow. Along in April if you can do so, put them in a hotbed. This will give them a start that they really need and it will save a lot of time. If the old plants are put into the hotbed you will have something really worth looking at by planting time. Under no condition plant out the old stumps without cutting them back.

A CAUTION

Plants taken from a position where they have been growing all summer and suddenly transplanted into stuffy rooms, are subjected to a severe shock, which can be modified if you will keep in mind the following: Plants like air (particularly those that we are dealing with). When you dig them up keep them out of doors as long as the weather allows. When obliged to house them, keep the windows open night and day when there is no danger of frost. Give them all the air you can before shutting up for the winter. This treatment will aid the plants to gradually accustom themselves to altered conditions and so harden them that they will start in to grow and prosper from the first. Digging up the plants early will enable you to give a week or ten days out of doors during which time the plants can be thoroughly watered and cared for.

After the plants are taken in for the winter they should be fed occasionally. For this purpose use bone meal and nitrate of soda. Work a little of the bone meal into the soil. Nitrate of soda used in the proportion of about an ounce to three gallons of water occasionally will be sufficiently strong to get good results. Don't think that because a little is good a lot will be proportionately better.

Flowers For the North Side of the House

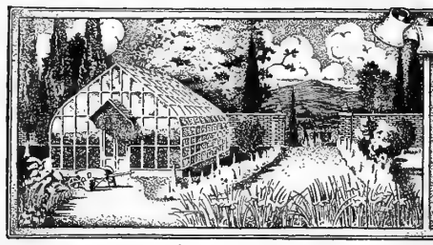
By G. Allen, Mass.

FLOWERS which need and cry out for the sun's warmest shining are still often planted where they can get only his earliest or his latest rays, or even none of his rays at all.

To be sure it is a temptation, especially if your house faces the north, to plant on its north side bright, sun-loving flowers, because that side of the house being somewhat gloomy by reason of its continual shade needs all the more brightness of bloom. And of course, many of our brightest bloomers are the sun's own flowers. But Nature can not be forced to fit the facing of your house, and unless on the north side of the house you plant flowers that will thrive without direct sunlight, straggly and half-hearted growth, and few and stunted blossoms must result.

Some plants that will thrive on the north side of the house because they require partial shade, are: Anemone japonica, ferns, forget-me-not, godetia, Lilium speciosum, lily-of-the-valley, myrtle, monkshood, pansies, tuberous begonias, and violets. The plants that will do well there, though they will not thrive as heartily as the others, are: coreopsis, cardinal flower, columbine, foxglove, lupine, nicotiana, Pyrethrum uliginosum, phlox, salvia, and veronica.

Any one of these plants, ageratum, tobacco, salvia lifted from the garden now, will furnish flowers indoors all winter



ODDS AND ENDS
FROM EVERYWHERE

My Experience with Fall Planting

WHILE the idea seems to prevail generally throughout New England that fall planting is not nearly so satisfactory as spring planting, careful personal experiments have demonstrated that, with a very few exceptions, trees planted in the early autumn survive the following summer much more satisfactorily than those planted in the spring.

For the benefit of the novice it might be well to name the leading exceptions to this rule. Oaks and all nut-bearing trees, birches, catalpas, sassafras, poplars, cherries, peaches, altheas, and a few others, are better planted in the spring. Magnolias, tulip trees and dogwoods have long been considered as belonging to the above class, but a few years ago I discovered a hidden principle which has proven early fall planting for these species most advantageous.

Owing to the need of the land for building purposes, it was found necessary to move two rather large magnolias. The owner, rather than sacrifice the trees, was willing to take a chance. On the tenth of September, while in full leaf, the trees were dug with a ball of earth, entirely defoliated, and removed to a new position. Every precaution was exercised in planting. Extra large holes were dug, and a large quantity of broken turf, finely chopped, used in planting. They were then covered with a very heavy mulch of fresh horse manure. To the surprise of all, the following spring, both trees leaved out beautifully, and continued to grow as though they had not been disturbed.

Believing a new principle had been discovered, the following summer, a large number of dogwoods, magnolias, and tulip trees were transplanted in the same manner. Not a tree failed to do nicely, which confirmed the discovery, and continuous fall planting of these species, for the past several years, has entirely demonstrated the practicability. This same principle may extend to larches, birches, and a number of other trees, but this remains yet to be proven.

Early fall planting of evergreens gives most satisfactory results, and has its particular advantage in parks, cemeteries, and large estates, where there is a great amount of work to be accomplished in a given season. Labor is always more accessible at this season of the year, the nurseries are not so congested with orders, and shipments are much more prompt. The season is a much longer one, giving a chance for more thorough preparation and better planting. In fact, early fall planting of evergreens has a very desirable effect in checking the growth, and causing a thorough ripening of the wood.

Many plants are apt to make a late and unnatural growth, if watered too freely throughout the growing season. It has long been the custom among amateurs and gardeners to apply the water, as a panacea of all ills in plant life. Some plants may receive too much water with just as serious results as too little.

It is especially noticeable, in the case of conifers and rhododendrons, that continued watering throughout the season promotes a late and unripened growth which, being suddenly frozen in this unnatural condition by the early frosts, is a serious setback and often a fatal injury to the plant.

A striking example of this principle is readily seen in the *Juniperus communis* or common field juniper. When transplanted from its native, well-drained soil, and placed under cultivation where it receives a liberal amount of water, it burns badly during the winter and is of practically no ornamental value. This same principle holds good in California privet hedges, and much of the winter killing of these is due to late watering, coupled with too close a shearing during the latter part of the season.

Practical experiments have confirmed two facts: First, that all growth must be allowed to ripen naturally; and second, that all evergreen plants must go into winter quarters with the ground thoroughly moist. To accomplish these results, all regular watering of evergreens and hedges should be discontinued about August 15th. In case of drought some judgment should be exercised. Varying with the season, but about the latter part of October the soil of all beds should be loosened and given a thorough watering, which should be followed by a mulch of leaves, hay, or litter.

The application of these principles will, no doubt, lessen to a great extent, the winter killing of so many of our fine specimen plants and beautiful hedges.

Connecticut WALTER E. CAMPBELL.

Clean up Your Garden

MANY people, from the appearance of their gardens, do not deem it essential to clean up the garden after the growing season but, aside from the appearances, cleaning up the garden will also destroy a place where insects would naturally harbor during the winter and thus reduce the possibility of the spread of these insects the following year.

If the soil can be plowed or spaded, this is one of the best methods for ridding the garden of obnoxious weeds. In this way, all material is placed under the soil, where it rightly belongs. The soil is left in such a state that many insects which inhabit the soil, such as white grubs and wire worms, are destroyed. In plowing, or spading, the soil should be left rather rough. Seemingly no care is necessary to fine or compact the soil.

The frost also works on the soil during the winter and renders it much finer, thus benefiting the crop the following year. If the land is not to be plowed or spaded, all the weeds should be removed and burned. Remove the weeds from the corners as well as from the middle of the garden. When removing the weeds do not to shake them too violently because many of them scatter their seeds during the fall. Be sure to pull up the weeds before the seeds ripen and scatter.

Where some vegetables are to remain in the garden over winter, remove all growth which is found above the ground. That is, in the case of asparagus, it is quite essential that the tops of asparagus be removed when they have turned yellow, being careful not to shake the fruits from the plant. Place the asparagus tops in a pile and burn, thus destroying any chance of spreading the disease known as asparagus rust. Rhubarb tops may be gathered and treated in the same manner. After they have been destroyed, cover the soil over the plants with a coating of manure, thus protecting the roots somewhat during the winter. If parsnip or salsify is to remain in the ground even part of the winter, a covering with manure may help when it comes time to dig out these crops as they are needed. In placing the manure over the plants, do not spread it promiscuously. Have some system about your work.

New York. E. WILSON.

Fall Care of the Strawberry Bed

OFTENTIMES a strawberry bed is sadly neglected after the fruit has been harvested in the summer time. Through the long period following fruiting, weeds have been allowed to grow; it is highly important that now, in the fall, all of these weeds should be cleaned out, in order to stop the self sowing of the seeds and to lessen the labor during the following year. Oftentimes if these weeds are allowed to remain during the winter, they will serve as a harbor for insects which will help to destroy the fruit or plants during the following year. After the weeds have been properly cleaned out, it may be necessary to look over the strawberry plants quite carefully and determine if they have grown correctly during the season. If the plants are found to be too close together in places it might be an advantage to remove some of the weaker plants.

As soon as the ground has frozen slightly, it would be a decided protection to cover the bed lightly with straw. A bedding about an inch thick would be excellent for this work. There is a difference in the sort of straw used. Oat straw is probably the poorest straw to use on a strawberry patch, because it contains so many weed seeds, increasing the amount of labor the following year. Wheat straw is fairly good, but also has somewhat the disadvantage of oat straw. Rye straw seems to be the best, because it contains but very little weed seed and also because it does not pack down in the way wheat and oat straw will. It remains loose and serves as an ample protection for the plant. This straw should be spread broadcast over the rows and between the rows. By so doing, it will stop the formation of honeycombing of the soil, thereby reducing the loss of plants by heaving. It is essential that the layer of straw should not be too heavy, because this is not the winter covering, but merely the fall covering which has for its object the checking of heaving of the plants and also serves as a slight covering for the plants during the one or two cold snaps which come before the real winter sets in. A little attention given to the bed at this time of year will amply repay for all labor and material used.

New York. A. E. WILKINSON.

Alstromerias Grown Outdoors

YEARS ago in the nursery grounds of Woolson & Co., of Passaic, N. J. I saw an alstromeria in full bloom, on Decoration Day, May 30th, where it had been growing outdoors for years. Having been unsuccessful with them right along, I thought it might be interesting to raise the question of their culture in your magazine, and perhaps some of your readers might be able to give the needed information. The man who attended to me gave me some of the flowers, said the plant had been standing there for years about three feet from the east side of the house. He said once they dug down to find the roots or tubers, but they could not find anything. Plant there all the same next year—inference tubers *very deep* down. The statement was made in the old *Garden and Forest* that alstromerias were grown out-of-doors in Newport, R. I.

I have tried in vain to achieve the same success. Will some one help and direct me?

New Jersey. G. E. BEHR.

Fall Planted Sweet Peas

IN late October we dug deeply (subsoiled to a depth of two and a half feet) the ground where our sweet peas were to grow, mixing with the soil a barrel of wood ashes. This was for a distance of fifty feet where we intended to plant a double row with an eighteen inch space between the rows. The ground was then covered with leaves, with salt hay over them and a piece of sacking on top of that firmly held in place by stones, the idea being to prevent the ground from freezing hard so that the soil could be worked very early in the spring.

The first part of February we planted the seeds in pots of good soil taken from a coldframe, two or three seeds in each pot, these latter being of five inch size to obviate repotting later on. They were placed in our enclosed porch with slight heat, mostly during the day, and about three quarters of the seeds germinated. They were afterward thinned to one plant in each pot, choosing the sturdiest. Of course there was only one variety in a pot and every pot had its label.

Directly the weather was at all balmy they were hardened off and put out-of-doors, sunk in the vegetable-garden in a shallow pit dug especially for them so that the tops of the pots were just below the ground-level. Here they were sheltered by slat screens placed to keep off the cold winds.

They grew well until the middle of April when we transferred them to the rows, planting them eighteen inches apart. The holes were made very big and deep, the earth being shaken off each plant so that little adhered to the rootlets and all the roots were spread out carefully, the hole being then

filled with soil but not to the top. Thus each plant was in a large round depression which would catch rain.

Twigs were put to the plants to hold them up that they should not be attacked by slugs. Tall brush had already been put between the rows and cheesecloth was stretched along the side from which the prevailing winds blew. This was firmly fastened to stakes and brought right down to the ground. If the plants showed no sign of branching, the top was nipped off. However, most of them branched of their own accord. As they grew larger, more and bigger twigs were added to help them toward the brush and a trench was made on one side, the upper one, where the moisture would do the most good. This was covered with boards supported by sticks put across the top of the trench.

When it had not rained during the night or the day before, water, conveyed by the hose, was allowed to run into the upper end of this trench for several hours. Just before the flower buds came on, a watering of cow manure water was given and soot was sprinkled freely on the ground about two weeks after the transplanting and again after the flower buds were showing.

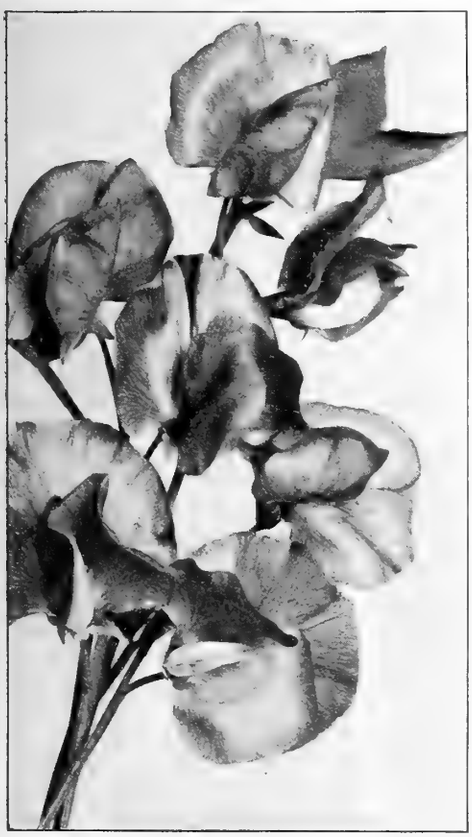
The flowers were large, the stems long, and the number of flowers in each spray good. We had flowers until the middle of August and the plants reached the height of six and a half feet. We also planted seeds in the ground early in March and had good flowers from them but the results were not so good as those we obtained from the pot plants and we will never try anything but planting in pots again. We bought good seed, all of the Spencer type, the varieties that did best being King Edward Spencer, King White, Helen Lewis and Wedgewood.

ETHEL ANSON S. PECKHAM.

New Rochelle, N. Y.

The Seventeen-year Locust for Next Year

THE periodical or seventeen-year locust is a serious pest. Over a great portion of the eastern United States this coming year, 1915, it is due to again appear. As during the past season locusts have been bad in southwestern Pennsylvania, eastern Ohio, and over a considerable portion of West Virginia, where I had a chance to observe them, I want to make some suggestions to the prospective planters of fruit trees and to those who have young trees.



The sure way to have exhibition quailty sweet peas is to sow the seed in the fall

The seventeen-year locust is not particular as to the plants upon which it rests. All kinds of trees and shrubs are used. While the damage is alike to all it is only a case of twig pruning, but when shrubbery or young fruit trees are the hosts the damage becomes serious.

The injury done by the seventeen-year locust consists of pushing an awl-like ovipositor into the small wood in which to deposit the egg. The end of this ovipositor is divided, each half working independently with a saw-like motion. An individual incision would do but little harm, but they are so close together that the continued effect is to weaken the twig to such an extent that any weight at all is almost sure to break it. This past summer I saw many young apple trees just coming into bearing, the twigs of which had an apple or two upon them. In almost every instance where the locust had visited the twig and inserted eggs, the twig broke under its load of little apples.

The locust uses a tree simply for a place to lay the eggs and for the eggs to hatch. Just as soon as hatched the little ant-like larva crawls out, drops to the ground, and burrows down into the ground to find a root from which to take its food. Here a little cell is formed and the larva leads an isolated existence until it is time to emerge years hence. It seldom or ever moves except when dislodged by some outside disturbance, or if it finds it necessary to find a new feeding place.

Where locusts are expected this coming summer, it will be better to defer planting fruit trees until the following fall or spring. I know of one young orchard in central Pennsylvania planted just before the brood of 1911 put in an appearance that was so injured that it has not yet entirely recovered, although it is outgrowing the damage.

Where there are young trees they should not be pruned until after the locusts are gone. Then should there be any necessity of thinning the wood, try to confine the cutting out to injured twigs. In this way the tree can probably be properly trained and only sound wood left.

To overcome the injury done by the seventeen-year locust, damaged trees should be given a liberal supply of nitrogenous manure in order to stimulate a rapid growth to cover over the injury with new wood.

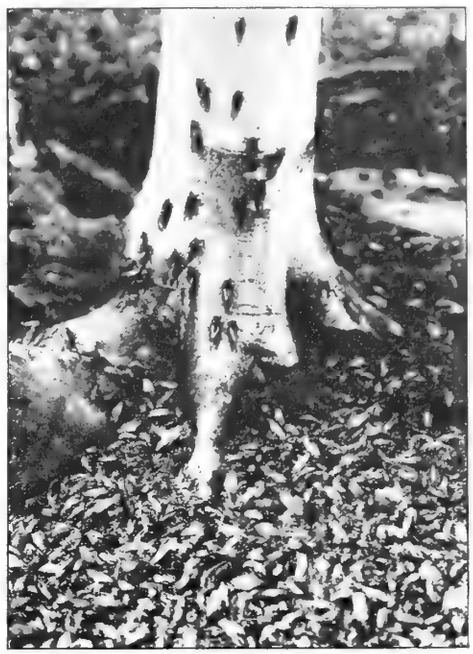
Preventives can also be employed. Hogs pastured in areas known to have been infested with the last appearance of the locust in a given locality will root it out and devour it as it gets near the surface. Land pastured by cattle rarely is infested by locusts because the larvæ are tender and as they approach the surface the tramping of the cattle crushes them.

Spraying the freshly emerged insects with kerosene emulsion, diluting the stock solution with five to eight parts of water, will stop all transforming to the adult stage. Where the transformation has taken place, dusting with pyrethrum powder or spraying with water in which has been stirred all the pyrethrum powder that it will carry, will kill the adults. Sometimes the death is slow, but it is sure, nevertheless.

Much has been done to learn whether the depositing of eggs can be prevented, but though many evil-smelling substances have been used, none seems to be a sure preventive. Whitewash has been used and it is reported that the female will not deposit eggs in whitewashed wood when other wood is available, but nothing definite in the matter can be advised. One observer, whose trees had been sprayed with bordeaux mixture, said that the locust did not stay in that orchard, but moved to a neighboring unsprayed orchard.

The following are the states and counties in which locusts may be expected to appear in 1915, as recorded by Prof. C. L. Marlatt in Bulletin 71 of the Bureau of Entomology:

STATE	COUNTIES
Delaware	Newcastle.
District of Columbia	Several localities.
Georgia	Dade, Elbert, Floyd, Habersham, Hall, Paulding, Rabun, Spalding, White
Illinois	Dewitt, Douglas, Knox, McLean, Montgomery, Scott, Shelby, Vermilion
Indiana	Boone, Brown, Carroll, Grant, Johnson, Laporte, Wells.
Kentucky	Letcher.



The 17-year cicada (locust) is due in many places in 1915
Be prepared!

Maryland	Carroll, Cecil, Montgomery, Prince George, Washington.
Michigan	Barry, Cass (?) Chippewa, Genesee, Houghton, Kent (?), Macomb (?), Newaygo (?), Ogemaw (?), Otsego, Shiawassee, Washtenaw.
New Jersey	Bergen, Cumberland, Essex, Hudson, Hunterdon, Mercer, Middlesex, Morris, Passaic, Somerset, Union.
New York	Greene, New York, Richmond, Schenectady, Westchester.
North Carolina	Alexander, Bladen, Buncombe, Burke, Cabarrus, Caldwell, Catawba, Henderson, Iredell, Lincoln, McDowell, Macon, Montgomery, Moore, Pender, Polk, Randolph (?), Rutherford, Swain, Transylvania, Union, Washington (?), Wilkes.
Ohio	Ashtabula, Carroll, Champaign, Columbiana, Delaware, Madison, Mahoning, Montgomery, Morrow, Pickaway, Shelby, Summit (?), Union, Vinton (?).
Pennsylvania	Bucks, Dauphin, Lancaster, Montgomery, Northampton and adjoining counties, Philadelphia, Westmoreland.
South Carolina	Oconee.
Tennessee	Bradley, Greene, Hamilton, Jefferson, Knox, Miegs, Polk, Sullivan.
Virginia	Charlotte, Chesterfield, Fairfax, Powhatan, Prince Edward, Smyth.
West Virginia	Berkeley, Brooke, Clay, Fayette, Grant, Hampshire, Hancock, Hardy, Jefferson, Marshall, Mineral, Monongalia, Monroe, Morgan, Ohio, Pendleton, Pocahontas, Preston, Raleigh, Tucker, Tyler, Webster.
Wisconsin	Burnett, Columbia, Crawford, Dane, Fond du Lac, Green Lake, La Crosse, Marquette, Sauk, Sawyer, Washburn, Waushara.

Pennsylvania. HAROLD CLARKE.

Roses From Slips

THERE is a system of raising roses from slips here in Oklahoma that is very successful and quite widely used by the amateurs. Late in the fall, either before or after hard frosts, slips about six inches long are cut. Care must be taken that the cut ends are smooth, the top square across and the bottom one a long slanting cut and as smooth as possible. The leaves must be cut carefully so as not to injure the buds, leaving enough leaf stem to afford them some protection. These slips are planted at once in good soil (in which a quantity of sand has been worked) to about half their length and covered with a Mason jar or a quart bottle with the bottom broken out. In severe weather earth is heaped up around the glass, nearly to the top. In the spring these slips bud out about the time the outdoor roses do and then care must be used or the slips will be killed by too much air, as the leaf starts before the roots are very big, sometimes with only a callus.

I have had great success with this method with the ramblers, teas and hybrid teas. A cutting of Lady Gay Rambler, planted less than a year ago, grew more than ten feet this year and I have a number of Mad. Caroline Testout, Antoine Rivoire, Meteor and the Cochets that are now large bushes.

Oklahoma. H. B. HARTS.

GARDENING FOR YOUNG FOLKS

CONDUCTED BY ELLEN EDDY SHAW

Bulbs For School and Home

SOME bulbs give better results than others, so in choosing bulbs for work with children, be sure to select those which give the best results. Most of the potting must be done in early October; the outdoor beds may be left until late in the month. Keep records of time and length of bloom.

For best results choose Roman and Dutch hyacinths, tulips, members of the narcissus family, crocus and freesias. Plant bulbs in flats (low boxes) or pans. Pans lend themselves better to this planting than high pots. Place the bulbs in pots and pans as closely together as possible. Be sure that no bulb touches another one or the pot itself. Leave about one inch or less for spaces between bulbs. The soil for potting may be just ordinary good garden soil. If it is a heavy, clayey soil add sand to lighten it.

Method of potting: First place a curved bit of crock over the hole in the bottom of the pot, which has been thoroughly soaked in water. Put in the bottom of the pot about one inch of drainage material — old broken crock. Fill in the soil to just the right level for the bulbs to rest on. Over the soil sprinkle about one half inch sand, to act as a drainage section through which water passes rather than remaining about the bulb to rot it. Set the bulb on this sandy bottom. Fill in soil up to one half inch of the top of the receptacle. Now the potting is finished. Next comes the period of rest for bulbs, usually in the cold and dark.

DUTCH AND CAPE BULBS

We usually deal with two groups of bulbs, the Dutch and the Cape bulbs. In the first group are the hyacinths, tulips, crocus, etc., the second is made up of freesia, oxalis, ixia, and sparaxis. The first group needs a long resting period in the dark and cold; the second cannot be stored in the cold since their roots and leaves develop at the same time. They require a light cool room and need no resting period. Their great requirement is plenty of water. Leave the Dutch bulbs in the cold and the dark from six to twelve weeks. They may be stored indoors if one has a cold, dark spot; and if you do this water them at least twice a week. The bulbs may be stored outdoors in a pit or put outdoors in a large packing box, having four inches of sand in the bottom. Upon this layer the potted bulbs are placed; cover over with from one foot to two feet of ashes. Nature supplies sufficient moisture for bulbs stored outdoors.

Bulbs, like hyacinths and Chinese sacred lilies, started in water, should be placed in a dark closet until abundant root growth has formed.

Hyacinth, Dutch. Buy named varieties, such as Charles Dickens, rose color; L' Innocence, white; Sarah Bernhardt, salmon pink. Buy large firm bulbs in any case remembering, however, that solidity means more than mere size. Plant indoors or out.

Indoor planting: In pots, pans or flats. Place each bulb one half inch below surface of soil; leave in dark and cold six to twelve weeks. Bring to the light when the growing point is an inch or more above the surface of the soil and roots show through the hole in the bottom of the pot. Dutch hyacinths are very satisfactory for indoor work and may be purchased in single or double varieties.

Outdoor planting: Plant just before frost in late October. Make soil loose and rich. Place bulbs five inches below the surface of the soil and five inches apart. Cover with soil. When frost comes cover the bed with manure two inches thick.

Hyacinth, Roman. These varieties bloom earlier than the Dutch ones. They are the easiest of all bulbs to raise; in fact, no bulb could be more satisfactory in the schoolroom. Bloom may be obtained for Christmas. Plant indoors as directed for Dutch hyacinths. They may be planted in sand, or in fibre and water.

TULIPS

Buy bedding tulips for outdoor work and early forcing varieties for indoor planting. Good tulips for forcing are Yellow Prince, Isabelle, La Reine, Duc van Thol, and Cottage Maid. Tulips are less satisfactory indoors, under schoolroom conditions, than other bulbs.

Indoor planting: Plant tulips in pans one half inch beneath the surface of soil. Six tulips may be placed in a 6-inch pan.

Outdoor planting: Tulips look well planted in formal beds, in stiff narrow border beds, in great masses of one color. Fix the bed the same as was suggested for hyacinth planting, and place the bulbs four inches below the surface of soil and four inches apart.

THE NARCISSUS FAMILY

This large family embraces many members. The most popular for school work are daffodils, jonquils, poet's narcissus, polyanthus narcissus, and the Chinese sacred lily.

Daffodils with the long trumpet-like cups are pleasing to most people. The Empress, Emperor, and Van Sion are excellent varieties to buy, and always give satisfaction. Plant indoors in pebbles and water, or outdoors in sand.

Jonquils: Try the Jonquilla Campernelle. The flowers in jonquils are clustered, deep yellow in color, sweet scented and slender. They show great variations in form.

Poet's narcissus: In form the poet's narcissus differs from the other narcissus members, for there is no trumpet but in its place is a fluted cup. The flowers are fragrant, the stems long. Ornatus is a variety much used for forcing indoors.

Polyanthus narcissus. This member is beautiful, sweet scented and free flowering. The Paper White narcissus belongs in this group. The polyanthus varieties are not quite so hardy as the other narcissus members. Soleil d'Or is another excellent variety of polyanthus.

The Chinese Sacred lily: Plant in stones and water. Set away in the dark until the bowl is full of roots, then bring to light. These lilies are very susceptible to draughts and so the buds become blasted. Polyanthus narcissus, jonquils, and poet's are far more reliable for water planting.

Indoor planting: Place the bulbs with their noses just sticking out of the soil. The pointed end of the bulb is called its nose.

Outdoor planting: Place bulbs four inches below surface of soil and four inches apart.

CROCUS

Indoor planting: These bulbs are very pretty when planted in window boxes. Choose one color, say yellow, so that the effect is of one solid mass when in bloom. The little children enjoy crocuses. Place them one half inch below the surface of the soil and one half inch apart.

Outdoor planting: Crocuses look their best when scattered about the lawn rather than planted in set beds. Put the bulbs pointed end up one inch below the surface of the soil.

THE SECRET OF SUCCESS

After good, large, firm bulbs are chosen, properly planted and given time to form roots, the secret of success is out.

The schoolroom is not the best place to raise bulbs. But what of that, since it has to be? Bulbs stand the schoolroom strain rather better than do most plants. When the growing tip of the bulb is one to two inches above the soil and when the roots appear through the hole in the bottom of the pot, then bring the bulb to the light. This does not mean bringing it into the full glare of the sunlight. The children like to put them on a windowsill so that the growing bulb may have the full benefit of the sun's light. But this method defeats the object. This year try another plan. Place a table in a corner of the classroom away from the direct light. Place the pots and pans upon this table, leaving them to grow more slowly. Leave them there until the flower buds begin to open, then bring them into the direct sunlight. Remember to place the table so that no draught strikes it. For a current of air blowing over the forming flower buds blasts them. The buds of Chinese lilies often are blasted, wither and die. It is wise to set the bowl of Chinese lilies in the dark until the roots form and vigorous growth starts. Paper white narcissus, daffodils, and poeticus do far better in stones and water than do the Chinese lilies. A substitute for stones is sand—nice brown sand, such as builders use. Fill a dish or glass globe full of sand, tuck in the bulbs so their noses just protrude out of this sand bed, wet the sand so it is saturated with water. Place the receptacle in a dark closet, leaving it there until roots form and the growing tip starts. Then bring to light.

While bulbs are in their blossoming stage, they require a great deal of water. Supply it fully, but do not drown them out.

A STUDY OF THE TYPES OF BULBS, EASY TO GROW, FOR CHILDREN TO USE. NOTE FAMILY CHARACTERISTICS

Hyacinth, Dutch Roman is of similiar shape | Tulips: Cottage Maid, early | Daffodil, Van Sion | Narcissus: Jonquil | Narcissus: Poeticus | Narcissus: Paper White | Narcissus Tazetta; so called Chinese Sacred Lily | Crocus: Yellow Mammoth

For the Southern Gardener

OCTOBER is cleaning up time in the garden. After saving the seed of special flowers wanted for next year, cut down and burn all dead stems. If thrown in the compost heap, they will germinate and come up in the most unexpected and undesirable places next spring. The dead leaves and rakings from the lawn are fine for the compost heap, and all should be saved.

Chrysanthemums, roses, and dahlias are in bloom this month, and should be protected on cool nights with cheesecloth or old newspapers. With little thought and trouble and with the usual weather in this climate, one can have roses almost until Christmas. Then there are the loyal petunias—it has to be very bitter weather to keep them from blooming—and the verbenas show a bit of color here and there nearly all winter unless it is unusual in its severity. So, with the bright rose hips of the *Rosa rugosa*, and the various colored berries of the lonicera, barberry, sassafras, Virginia creeper and other shrubs and vines, the garden still has much color.

After the rose bushes have ceased blooming, cut off the withered roses and dead stems, and put around the plants well rotted cow manure, which serves as sufficient protection against a severe winter. With a spading fork, loosen up the earth in the rose beds, taking care not to disturb the roots by spading too near the bushes. As a ground cover, sow myosotis (forget-me-not), mignonette, arabis, Little Gem sweet alyssum, or portulaca. These bloom early in the spring and all summer, and are excellent for shading the roots. Rose bushes planted the first part of this month do well in this climate, and need no more protection than well rotted manure at the base of the plant; and it is a time saver to get all that is possible done in the fall. Evergreens can be transplanted from the woods now. It is far too hot and dry to plant them earlier, and really the preferable time is the end of February or the month of March. Do not allow the roots to get dry. Wrap each one in burlap as soon as dug so as to protect it from the sun or wind. The holes where they are to be placed should be previously dug. Fill with water, put in the evergreen, fill in with earth and press down firmly with the foot on all sides of the plant. Evergreens must not have any fertilizer about the roots, but if the ground is hard and clayey throw in the hole a spadeful of woods earth. In transplanting hollies, pull off all the leaves; and small plants thrive best and grow very fast.

The lemon verbena (*Aloysia citriodora*) will stay out all winter; the manure thrown on the flower beds in the fall is sufficient protection for it. Cut back the heliotropes and bury the roots in the coldframe, and set out slips in the greenhouse.

Get your plants ready for the window garden or the conservatory. See that the earth in the flower pots is loosened with a hand weeding fork and place moss from the woods around the large plants. This keeps the earth from baking and holds the moisture so essential in a furnace-heated house.

Trim off the dead leaves from ferns, palms, and rubber plants, and wash the leaves with weak lemon water.

It is not too late to dig up some young plants of petunias, verbenas, larkspur, and wallflower and put in flower pots for the window or conservatory. Give all plants a thorough watering before putting them in the house. Leave the windows open as often as possible on the mild days, and indeed during the cold weather, flowers should have a little fresh air every day, if it can be arranged so they are not directly in a draught.

In the fruit sections, farmers are busy gathering, packing, and shipping their Albemarle Pippins; other apples especially fine are Winesap, York Imperial, and Grimes' Golden. The large crops that are not sold go immediately to cold storage. The fruit from the home orchard is easily kept in an unheated cellar, especially if the fruit, both pears and apples, are placed on shelves or racks so as not to touch each other, and where the air can circulate freely. None but perfect fruit should be stored. Tomatoes can be kept the same way if gathered green before the frost touches them, and each one wrapped in paper and placed on shelves in the cellar.

Sow seed of Big Boston or Boston Market, and some Hanson Lettuce in the coldframes for transplanting later, and transplant lettuce plants from

The Readers' Service will gladly furnish information about Retail Shops

The Readers' Service will give suggestions for the care of live-stock

those seeds which were sown in September, to their permanent beds. Make the ground very rich to force them, and during the winter a small amount of nitrate of soda, sprinkled occasionally between the rows, pushes the lettuce along and makes good heads. Give air each day if possible throughout the winter.

It is not too late to set out strawberry plants if the ground is not wet. Prepare the land carefully and enrich with commercial fertilizers, potash and phosphates, and only a very small amount of nitrates, as they force the plants and make them too tender for winter. Be careful, when planting, not to bury the crown.

Orchard trees can be set out the last of the month, with the exception of peaches and plums and other stone fruits which are best set out in early spring; also all shrubs and deciduous trees, with the exception of those with a pithy fibre like the tulip poplar, spring being the best time for them.

There is much to be done to the celery bed. The earth should be carefully heaped up around each plant. If the plants were set in a trench in rows six inches apart and six inches apart in the row, a good way to blanch them is to tie up carefully each plant with soft twine, beginning at the corner and twining it once around each plant all across the bed and down one row and back again the second row, holding the plant together with the other hand and so on to the last row. Then shovel in the earth carefully between the plants, for in this way no soil can get into the crown of the plant to rot it. Every few weeks, this has to be done, as the celery grows rapidly up to Christmas, although some of the self-blanching kind is ready to use by Thanksgiving. Rutabagas and turnips can remain in the ground until late in the winter, or put in earth kilns in November. Force the fall cabbage by giving a little nitrate of soda between the rows and by constant cultivation.

The cabbage plants for early spring should be fertilized with potash and phosphoric acid. Be chary of nitrogen; leave that for spring for a top dressing, the object being to have stocky plants.

Lettuce plants for the open ground and late spring consumption should have a furrow plowed or dug on the north side of the row, throwing the earth up as a protection against cold winds.

Make the onion beds rich with hen manure mixed with kainit. Work thoroughly and plant the potato onions for early spring use. A few Queen and Pearl onions may be set out, taking chances on a mild winter. Sow crimson clover for turning under in spring as humus, and also sow grass seed wherever needed; orchard grass in the fields for hay, and a good mixture of lawn grass for the lawn.

Alfalfa might be sowed this month, though it is usually done earlier in the fall. It is such a good food for hogs and cows and all farm animals, farmers should have more of it. It is difficult to get a good stand, but well repays one for the trouble and expense; one gets four or five crops a year, and it enriches the soil as well. The soil should be gotten in first class condition before sowing alfalfa. A field first planted to cow peas and then to crimson clover and both times plowed under are the first steps to take for alfalfa. Then put on slaked agricultural lime, a ton to an acre, plow it in, and follow that with 400 pounds of bone meal and 53 per cent. potash to the acre. Sow thirty pounds of alfalfa seed with soil from an alfalfa field for inoculation.

Virginia. J. M. PATTERSON

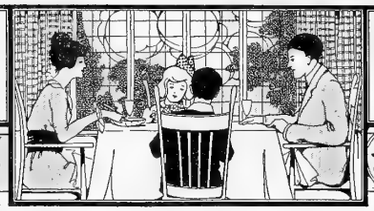
Bulbs and the Dibble

I HAVE this year seen very great difference in results from Holland bulbs planted with an ordinary dibble, and from their mates planted on the excavation principle. The dibble is very likely to leave a pointed air chamber under the bulb; because, while a dibble makes its hole point down and blunt end up, a tulip, hyacinth or narcissus is planted point up and square end down. The English gardeners term a root in this predicament a "hung" bulb; that is, it is hung by the waist and must stretch down its toes through air (and in January through a lump of ice) in order to sustain itself. Bulb for bulb, the "hung" planting which I saw this season gave smaller flowers, later flowers, fewer flowers, and more blasted spikes and abortive half-flowers, than its duplicate planting in poorer ground, where all the bulbs were set level in an excellent bed and then earthed in with a spade.

Pennsylvania. E. S. JOHNSON.

Write to the Readers' Service for information about live stock

SUGGESTIONS FOR THE HOME TABLE



Conducted by EFFIE M. ROBINSON

Graduate of the National Training School of Cookery, London, England

Canning Vegetables by the Cold-Pack Method

ANY vegetable or fruit that grows can be canned by the cold-pack method. It requires little time and much less labor than the old open kettle way. It is not even necessary to have sound, unblemished products. It isn't possible to can a poor string bean and have a high-grade product when the can is opened next winter, but it is possible to keep cold-packed products in the same state in which they are canned; that is, over-ripe, spotted fruit will still be over-ripe and spotted after canning, but it will not spoil.

Two things only are necessary in canning. First, to sterilize the product and so kill whatever bacteria may be present; second, to seal the sterilized product so that no other bacteria can get in.

Take sweet corn, for instance; to get the best results, the corn should be canned immediately after picking, within a half hour if possible. It will keep and be fairly good, if you buy it in the market and can the next day, but it is best and surest of keeping nicely if it is picked and canned during the same half-day.

CANNING CORN AT HOME

First	Gather it with the husks on and a good bit of the stalk stem.
Second	Husk, silk, and grade for size and ripeness. Unripe products need longer processing than ripe ones, and in order to get it cooked just right, all the corn in one can should be of the same degree of ripeness.
Third	Put the clean ears in a kettle of boiling water and let them blanch for from five to fifteen minutes according to the degree of ripeness.
Fourth	Take out of blanch, plunge in cold water for a few seconds, and pack at once.
Fifth	If it is to be canned on the cob, pack in large two quart cans—any style that will seal—packing one ear, butt down, the next, tip down, and so on. This is for convenience in packing and saves room, as this way, you can get more in a jar.
Sixth	Add 1 teaspoon of salt per quart.
Seventh	Fill the can one third full of water. (Some packers fill the can full. Others think this makes the corn taste watery, and prefer to fill the can only about one third full. Experiment and see which way you like it best.)
Eighth	Put the rubber and cover in place and screw the cover down loosely. A good guide is to use the thumb and little finger only and whenever the cover catches, stop. The cover should not be tight.
Ninth	Process as per directions below.

Processing is just another name for sterilizing, or cooking to kill bacteria.

Have ready a vessel twelve to fifteen inches deep. A large kettle, a pail, or for canning in quantities, a boiler, will do. Be sure that it is scrupulously clean.

If you are to do much canning, it pays to buy a regular canning outfit. They are not expensive and one will easily pay for itself in a season in the time, heat, labor, and temper saved.

Make a false bottom for this vessel. Wire screening or lath may be used. If boards are used they should be perforated. This bottom should rest on slats so that it is one to one and one half inches above the bottom of the kettle, so as to prevent the bottom of the jars getting too hot and breaking, or causing the contents to exhaust under the lid.

As each can is filled, set it in the boiler with the boiler cover off to keep warm until the whole pack is ready. Have the water in the boiler hot, but not boiling, so there will be less danger of breaking the cans when setting them in. Dip them a little, then lift them, dip again, once or twice, to heat them, then let them down gently into the water.

Cover the jars at least one inch above the top with the hot water. Leave the boiler cover off a few minutes until the cans get warmed through; then cover, and heat to the boiling point as rapidly as possible.

As soon as the boiling point is reached, begin to count time and keep the water boiling for four hours. Do not begin to count time until the boiling point is reached.

If you have a good reservoir which can be kept at the boiling point and the weather is not too warm to use the range, use the reservoir for processing.

With a wood fire it is necessary to be very careful that the water never stops boiling. With a gasolene or kerosene stove, when the boiling point is reached, regulate the burner to keep the heat at that point and it will need no further attention.

When the time is up, turn the fire off, let set a minute, then uncover, dip the water out until the cans can be reached, then lift them out, tighten the covers, and set aside to cool.

Do not set them too close together or they will hold heat and keep on cooking. If canning in glass, wrap the cans before putting them away. This excludes light and keeps the product in better condition.

If the corn is to be cut off the cob, proceed in the same way, only, after blanching, cut the corn off drawing the knife from the top toward the butt of the ear so as to get all of the chit or germ which is the best flavored and the most nutritious part of the ear.

If the corn is intended for sale, do not scrape the ear into the pack as that will give it a milky appearance and lower its commercial value. The portion scraped from the ear may be canned for soup.

Pack the cut corn, salt, add water only about one-third of the way to the top, cover, and process as above.

With a home-made outfit, canning corn is a slow process. An outfit such as you can buy, which will maintain the heat two or three degrees above the boiling point, requires less time to process, and a steam outfit requires only one hour.

As corn requires so long to sterilize, it is economy to have a number of cans ready at once. But it is well to experiment with a small amount first, so as to be sure of each step.

If you have never used the cold pack method, experiment with a small quantity of tomatoes.

RECEIPT FOR CANNING ANY VEGETABLE

1. Select fresh, firm, ripe product
2. Wash clean
3. Blanch per time table
4. Dip in cold water
5. If desired, remove skins and cut to convenient size
6. Pack
7. Add 1 level spoonful salt per quart, or 1 rounded spoon of ⅔ salt and ⅔ sugar
8. Add water
9. Put cover in place. If tin, seal
10. Process per time table, Count time after boiling point is reached. If using home-made outfit have water one inch above top of can.
11. If glass, tighten cover.
12. Invert to cool and test joint.
13. Wrap, if glass; label, if tin.

CANNING FRUITS

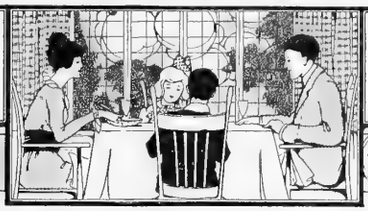
All fruits may be canned by the same method. They do not need to be blanched unless it is desired to skin them, as in the case of peaches, or, they are very tart, as apples.

In place of adding salt and water, pour over fruits a hot syrup; or if you prefer to can without sweetening, add 1 teaspoon sugar per quart and fill can with water.

Any fruit jars or bottles which can be sealed will do. For convenience in handling, tin cans are preferred by

(*Continued on page 104*)

SUGGESTIONS FOR THE HOME TABLE



Conducted by EFFIE M. ROBINSON

Graduate of the National Training School of Cookery, London, England

Free Cook Books Every Reader Ought to Have

MANUFACTURERS of standard food products are much interested in proper cooking and serving of dishes in which their products are used. Many of them publish cook books of great usefulness. We have requested a few of these manufacturers to allow us to distribute their books of recipes to Garden Magazine readers without charge.

Write us a letter containing your name and address and we will send your name to these manufacturers. If there are certain books that you do not want include in your letter the numbers of those you desire mailed to you.

Address letter to Miss Effie M. Robinson, Home Table Dept., The Garden Magazine, Garden City, N. Y.

No.	Manufacturer	Product	Name of Book
1	Royal Baking Powder Co.	Baking Powder	Royal Baker
2	F. A. Ferris & Co.	Hams & Bacon	Table Hints
3	Walter Baker Co.	Chocolate & Cocoa	Choice Recipes
4	Genesee Pure Food Co.	Jell-O	Desserts of the World
5	Diamond Crystal Salt Co.	Salt	101 Uses for Salt
6	Burnham & Morrill Co.	Fish-Flakes	Good Eating
7	A. Colburn Co.	Mustard & Spices	Recipes
8	Cresca Company	Preserves, etc.	Cresca Delicacies - 2c
9	The Fleischmann Co.	Yeast	Excellent Recipes
10	Gorton Pew Fisheries	Cod Fish Flakes	True Food Economy
11	Hawaiian Pineapple Packers	Canned Pineapple	100 Recipes
12	Hills Bros. Co. [Ass'n	Dates, etc.	Dromedary Cook Book
13	Geo. A. Hormel Co.	Hams & Bacon	Dainty Ways of Serving
14	Knox Gelatine Co.	Gelatine	Dainty Desserts
15	Francis H. Leggett & Co.	Premier Foods	Pure Foods
16	Minute Tapioca Co.	Tapioca & Gelatine	Minute Cook Book
17	Proctor & Gamble Co.	Crisco	Story of Crisco
18	Southern Cotton Oil Co.	Salad Oil	Recipes
19	Stephen F. Whitman & Son	Chocolate, etc.	Marshmellow Whip
20	Worcester Salt Co.	Salt	Worcester Cook Book

All foods advertised in this department have been tested and approved by Effie M. Robinson. They are also sold and recommended by the Doubleday, Page & Co. Coöperative Store

Canning Vegetables by the Cold Pack Method

(*Continued from page 102*)

many. In selling products canned in glass, add 6 or 8 cents per quart to pay for the container.

The U. S. Department of Agriculture has a force under direction of O. H. Benson of the Office of Farm Management to help beginners get started.

Fruits do not need blanching; but if it is desired to skin them they may be scalded after which plunge in cold water and pack quickly. The time for blanching vegetables and fruits is as follows:

Peas, beans, etc., 5 minutes
Corn on the cob, 5 to 15 minutes
Pumpkins, squash, mangoes about 5 minutes.
Okra, cabbage, sweet potatoes, 5 minutes.
Asparagus, spinach, kale, etc., 5 to 10 minutes.
Rhubarb, beet tops, etc., 1 to 3 minutes.
Beets, carrots, turnips, etc. (either blanched or scalded), 6 minutes. Apples, 5 minutes.
Scald tomatoes, plums, pears, etc., 1 to 2 minutes.
Scald peaches, apricots, 1 to 2 minutes.
NOTE: Cook greens, cabbage, chard, etc., about 20 minutes before packing to reduce bulk,

TIME TABLE FOR PROCESSING

	Hot water bath and Home made outfit 212°	Water seal Outfits above 212°	Steam Pressure Cooker 5 lbs or more
	Minutes	Minutes	Minutes
Apples	15	15	10
Apple cider	20	15	12
Beans, lima, and string	90	60	60
Beets	20	20	15
Corn on or off cob	240	180	60
Grapes, pears, plums	15	15	10
Greens	60	60	40
Hominy	60	50	40
Peas (garden or English)	60	60	40
Sweet potatoes	80	70	60
Succotash	60	60	40
Tomatoes	22	20	10
Tomatoes and corn.	80	70	60
Grape juice	15	15	10
Pumpkin.	50	50	40
Squash	50	40	30

Illinois GRACE M. SMITH.

Amateur Bulb Notes

LAST year, while bringing to the light a number of hyacinths kept in the cellar for six weeks, I broke the pot of one. Rather than repot it, I washed the dirt from the roots and finished growing the bulb in a hyacinth glass. It bloomed two weeks ahead of those in the soil, and produced two magnificent flower spikes, better than those from bulbs grown "all the way" in glasses.

As hyacinth glasses I use pint milk bottles. They are less liable to break than the regular glasses, and their thick rims hold a bulb nicely. Covered with dark paper, they shield the roots from the light better than the green or yellow glass of the ordinary hyacinth glass. Milk bottles also have the advantage of costing nothing, as nearly every city dairy delivers milk in glass, and the bottles can be returned, undamaged, after they have been used. Some experts advise the use of paper collars, placed around the growing leaves just before blooming time, to "draw the spike," or lengthen it, but I cannot see that it makes any difference with bulbs left in the dark for several weeks.

In planting bulbs singly in small pots, for winter blooming, be sure to get at least two-thirds of the bulb below the ground. In deep pots, where there is plenty of room for the roots, this care is not necessary, but I found that with 3-inch pots the roots of daffodils and hyacinths would force the bulbs out of the earth.

Ohio. FRED HAXTON.

If you wish to systematize your business the Readers' Service may be able to offer suggestions

Bulbs For Indoor Use

FOR several years I have had a continuous succession of blooming bulbs in the house, from December to May. By planting in the usual deep bulb pots, about five bulbs to each pot, in early October, the first variety comes into bloom in December, and the rest follow in unbroken succession. I plant lightly, not firming down as for outdoor planting, and I sift the soil. Then put in a dark, cool place, water occasionally, and as each variety shows green tips I bring it to the light.

The following list has always proved very satisfactory: Paper white and poet's narcissus, white Roman hyacinths and Dutch Roman hyacinths, early French daffodils, Golden Spur, Emperor and Barri conspicuus daffodils.

Connecticut. E. M. F.

An Excellent Double Tulip

LAST October I planted as usual 100 bulbs of the double-flowering tulip Murillo, massing them along the edges of the borders in our little front garden. The results, as is always the case with this reliable variety, were most satisfactory; but to my surprise, I noticed while the plants were at the height of their bloom that each bulb had thrown up a second flower-bud that looked fairly promising. After the main crop of flowers had faded, they were carefully removed and a liberal dose of manure water applied to the bulbs.

This seemed to encourage the plants to greater effort, for the new flower stalks shot up strong and straight; the buds swelled, and I was rewarded by a second crop of blossoms which, although smaller and less double than their predecessors, made a very creditable garden effect, and prolonged the tulip season for about eight or ten days.

Although, as a rule, I do not admire double tulips, Murillo could scarcely fail to please the most critical

The double tulip Murillo, which opens pure white and changes to soft rose as the flower fades

taste. On first opening the flowers are pure white; then as the days grow warmer, they become faintly flushed with delicate pink, which in turn changes to a beautiful soft rose that suffuses the entire flower. The blossoms remain in perfection for nearly three weeks, being much more lasting than the single varieties, and I have always found that a thorough soaking of the roots at the close of a warm spring day helped wonderfully to retain their freshness.

When fully expanded under the hot noonday sun, the tulips resemble great wide-open, pink water lilies; during the early morning and twilight hours, they look like delicate peonies, or even suggest great tea roses.

Pennsylvania. H. M. GOODKOP.

Three Color Combinations

NOW that the garden season is about over it is easy to see where we made mistakes.

One arrangement which gave me great pleasure was in May, when, against a wall where *Ampelopsis Veitchi* was putting out its tender, bronze-green, varnished leaves, great masses of white *Spiræa Van Houttei* broke in a feathery spray. Below these fairy breakers lay a quiet sea of beautiful purple *Iris Germanica*. Along the margin, rising to the same height as the iris, soft pink and dull lavender Darwin tulips melted in to the purple.

Again in early July came a vision of gladness. Tall English hybrid delphiniums threw a blue mist against this same ampelopsis-covered wall, and below them double white Japan iris, which one seedsman calls Yomo-no-umi, whatever that may mean, rested upon its tall reed-like stems like a flock of rare and lovely birds.

In August, when the season wanes and colors deepen, a lovely group consisted of *Liatris pycnostachya*, its spectacular upward flight brought out against the white of *Hydrangea paniculata*, var. *grandiflora*. Below, the feathery spray of *Coreopsis verticillatus* starred with pale yellow blossoms, softened the angular stems of the liatris, while to the right bloomed great bunches of auratum lilies, their white and gold making the high light of the picture. Farther in the border, but with no other blooms intervening, came groups of phlox, that nearest the liatris in soft shades of purple melting into the lovely lavender of Eugene Danzenvilliers, while farther on the glowing lavender-pink of phlox Frau Von Buchner brought in a warmer note and softened yet heightened the colder tones.

Pennsylvania. HELEN MCKEEHAN SHARPE.

COMING EVENTS CLUB & SOCIETY NEWS

Meetings and Exhibitions in October

1.	Oyster Bay, L. I., Horticultural Society: dahlia show. Garden Club, Lawrence, L. I.: exhibition of marigolds, salpiglossis, snapdragons.
2.	Pasadena, Cal., Horticultural Society: regular meeting.
2, 3.	Short Hills, N. J. Garden Club; fifth annual dahlia show.
3, 4.	Massachusetts Horticultural Society, Horticultural Hall, Boston, Mass.: fruit and vegetable exhibit.
5.	New Jersey Horticultural Society, Orange, N. J.: ninth annual dahlia, gladiolus, fruit and vegetable show.
6.	Nassau County Horticultural Society, Glen Cove, L. I.: dahlia show.
7-17.	Wichita, Kansas: International Dry Farming Congress and Soil Products Exposition.
8.	Worcester County Horticultural Society, Worcester Mass.: exhibition.
9.	Connecticut Horticultural Society, Hartford, Conn. regular meeting.
10.	Dobbs Ferry, N. Y., Horticultural Society: regular meeting.
14.	Nassau County Horticultural Society, Glen Cove, L. I.: regular meeting.
15, 16.	25th Anniversary of the organization of the Board of Trustees of the Missouri Botanical Garden, St. Louis, Mo.
16.	Pasadena, Cal., Horticultural Society: regular meeting.
17.	Staten Island Garden Club, New Dorp: lecture on bulbs.
21, 22, 23.	New Hampshire Horticultural Society, Antrim, N. H.: annual meeting.
22, 23, 24.	Pasadena, Cal., Horticultural Society: fall flower show.
23.	Connecticut Horticultural Society, Hartford, Conn.: regular meeting.
23, 24, 25.	Menlo Park, Cal., Horticultural Society: fall flower show.
24.	Dobbs Ferry, N. Y., Horticultural Society: regular meeting.
26.	Staten Island Garden Club, New Dorp: meeting.
29, 30.	Nassau County Horticultural Society, Glen Cove, L. I.: chrysanthemum show.
30.	Oyster Bay, L. I., Horticultural Society: chrysanthemum show.
30, Nov. 3.	Horticultural Society of New York, Museum of Natural History, New York City: exhibition.

Owing to the war in Europe, many of the foreign fixtures already announced have been indefinitely abandoned.

Note: The Editors will be grateful for information about the doings of gardening societies, clubs, etc., and especially as regards coming events. In order to ensure timely publication, the information must reach the Editors by the *twelfth day of the month preceding the date of issue* in which the notice should appear.

The International Flower Show

We have recently received the preliminary schedule of the 1915 International Flower Show, which will be held, as last year, in the Grand Central Palace, 46th Street and Lexington Avenue, New York City, March 17th to 23rd. This will be conducted under the auspices of the Horticultural Society of New York and the New York Florists' Club, and it is hoped that it will meet with the same enthusiastic reception that it experienced last year. Here is an opportunity for the amateur to become acquainted with all the novelties. Even if one has no garden and has never raised any flowers to speak of, it is a most delightful experience to see them in such profusion, and we have no doubt but that this year's show will be even more beautiful than that of last year.

The Horticultural Society of New York offers its gold, silver, and bronze medals for exhibits of unusual merit, the exhibits to be judged and the awards to be made by the Society. The complete schedule will be issued later, but in the meantime, if any definite information is desired, apply to Mr. John Young, 53 West 28th Street, New York City, who is Secretary of the New York Florists' Club.

The Garden Clubs

The garden clubs of Long Island have formed themselves into a Red Cross Auxiliary, and are organizing together for the purpose of collecting funds to help the sufferers in the War.

We have also been informed that plans are now under way for the establishment of a garden club at East Hampton, L. I.

A Correction

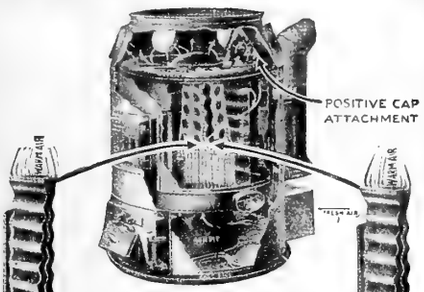
In the September issue of THE GARDEN MAGAZINE, we referred to the July meeting of "The Garden Club of Michigan." We are sorry to say that was a mistake; the note referred to the Garden Club of Alma, Michigan.

Anniversary of The Missouri Botanic Garden

The twenty-fifth anniversary of the organization of the Board of Trustees of the Missouri Botanic Garden will be held October 15th and 16th. This event first took place September 10, 1889, when the Missouri Botanical Garden, as a botanic institution, public in character, was established under the will of Mr. Shaw. Besides the numerous lectures and sight seeing trips and the annual banquet, scheduled for this year there will be special floral displays. The old museum building, closed for a long time, has been renovated and will contain an exhibit of disease-producing plants, and the effect of these parasites upon other plants, as well as upon various woods and timbers will be shown.

International Dry-Farming Congress

Probably one of the largest industrial expositions ever held in the Southwest will be the International Dry-Farming Congress and Soil Products Exposition at Wichita, Kansas, October 7 to 17. Space has been bought by national and local manufacturers in all sorts of industry; in a special building some of the railroads will have comprehensive displays; horticulture, dairy and live stock will be well represented; and the United States Government, with an appropriation of $20,000, has called for exhibits covering every important phase of agricultural work and life. The various state departments and colleges of agriculture will also have representative exhibits.



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It is free from complication. Easy to regulate. Conspicuously free from repairs. Has no pipes to freeze or water to leak, spoiling walls or ceilings. It should, however, in no way be confused with hot air furnaces. It is entirely different. *It is a Warm Air Generator.* Warm fresh air containing just the desirable amount of moisture to insure health and prevent drying out and pulling apart of your furniture. It delivers more heat from less coal than other systems. *We can prove it.* What we want is the opportunity *to prove it to you.*

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The Only Testimonials We Use Are Extracts From Letters Ordering More Sash

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Save Fifty Percent

The result is that mats and shutters, which must be used on the old style single layer sash, need not be used. Thus half the labor is eliminated. These extra covers need never be bought or renewed; thus half the expense is saved. The plants, having constant light and a steadier temperature, grow better and stronger and insure earlier crops; thus the business gives far better returns.

Our Inexpensive Greenhouse

Besides their use on cold frames and hot-beds the same double glass sash may be used during all or a large part of the greenhouse months on the ready made sash greenhouses made especially for them. These houses, made entirely of cypress and glass, are inexpensive and excellent. They are made to rest on the ground with a sunken path to give access to the beds, or they can be placed on side walls of frame, concrete or brick construction so as to use benches for the plants. These side walls may be as much as 2½ feet high. The door is made to fit either a path 2½ feet deep or walls 2½ feet high, but may be cut off at the bottom to fit any lesser height or depth. Any one can set up the house without a valid chance to make a mistake. The frame-work is assembled as far as is practicable for shipment. Read all about this most attractive little house in our catalog.

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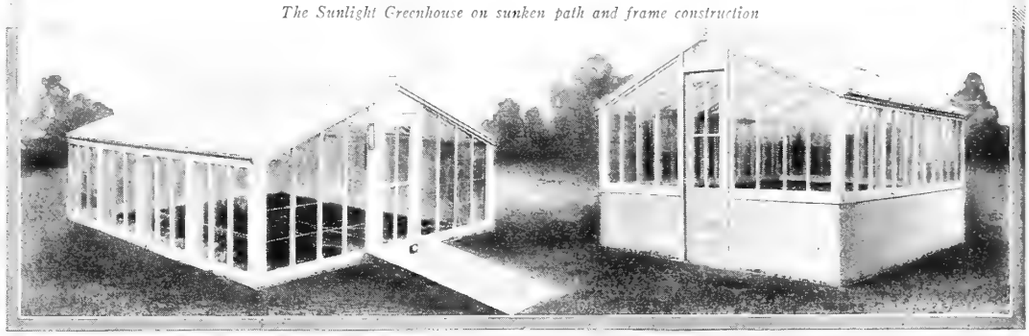
2. *Prof. Massey's excellent booklet on The Use of Hot-beds, Cold-frames and Small Greenhouses, 4c in stamps.*

SUNLIGHT DOUBLE GLASS SASH CO., 927 E. Broadway, Louisville, Kentucky

The Sunlight Greenhouse on sunken path and frame construction



Davey Expert treatment would have prevented the splitting of this crotch.

Your trees are in danger of this!

Assure yourself at once that physical weaknesses and internal decay are not menacing the very existence of your trees. A tree weakened by decay may be destroyed by the next windstorm.

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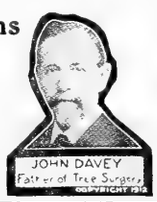

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Victor-Victrola

THE COUNTRY LIFE PRESS, GARDEN CITY, NEW YORK

Vol. XX, No. 4 NOVEMBER, 1914 15 Cents a Co

THE GARDEN MAGAZINE

FARMING

Beginning of the New Serial

Roberta of Roseberry Gardens

By the author of the "The Garden Doctor"

COUNTRY LIFE IN AMERICA

DOUBLEDAY, PAGE & CO.
Chicago GARDEN CITY, N. Y. New York

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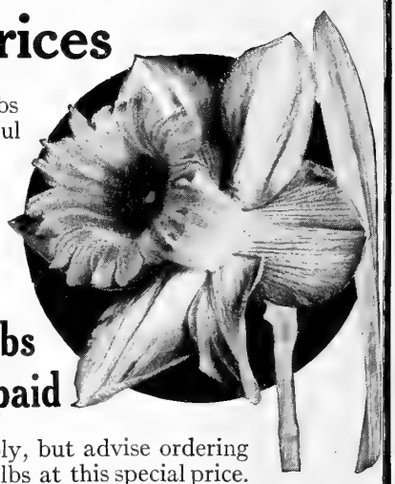

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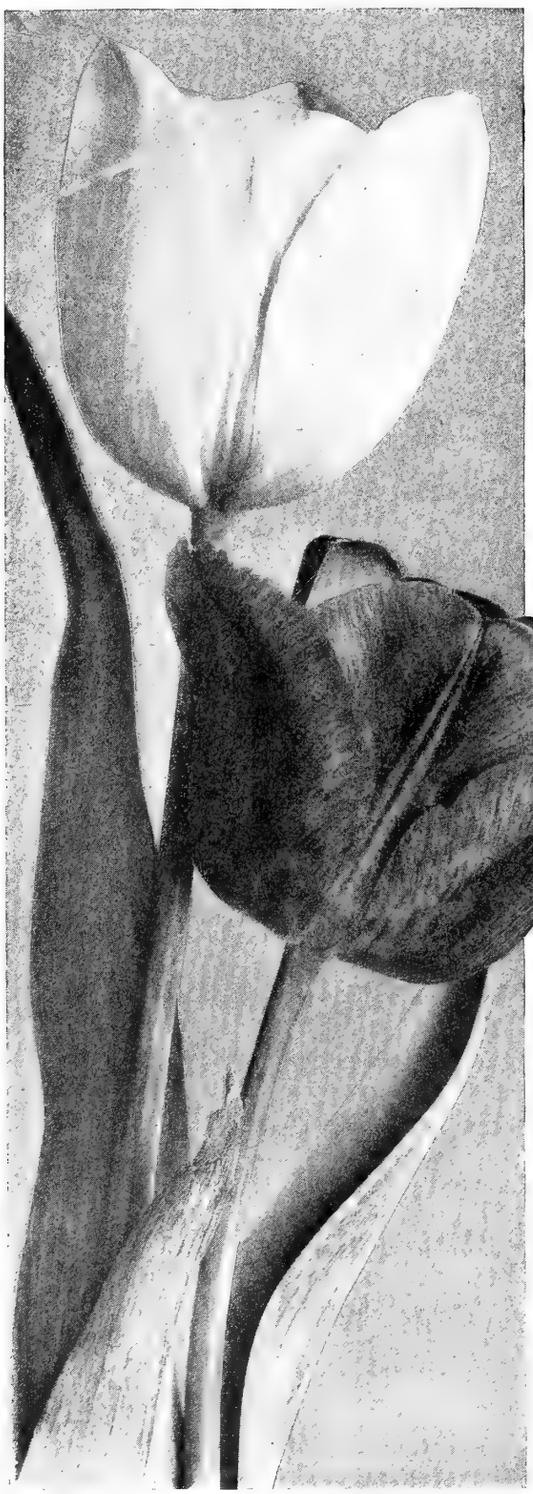

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Darwin Tulips

(See Illustration)

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THE GARDEN MAGAZINE

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NOVEMBER 1914

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The Garden Magazine

VOLUME XX NOVEMBER, 1914 NUMBER 4

THE MONTH'S REMINDER

COMPILED WITH SPECIAL REFERENCE TO THE HOME GARDEN, FROM THE TEN YEARS' DIARIES OF A PRACTICAL EXPERT GARDENER

For reckoning dates, the latitude of New York City is generally taken as a standard. In applying the directions to other localities, allow six days' difference for every hundred miles of latitude

The Flower Shows

NOVEMBER is the month of flower shows in nearly every residential centre, and it is the duty of every person interested in flowers, fruit, and vegetables, to attend some one of these exhibitions, not only for the moral and financial support afforded, but to see what other people are doing and thereby gain knowledge. If you have anything from a head of cabbage to a rare orchid that is exceptionally good or has some peculiar characteristic, by all means exhibit it; and go yourself to see the novelties that the trade exhibits. Keep up the good work by lending every effort you can toward the success of your local flower show

The Roses

TENDER roses will need protection of some sort to carry them through the winter. Some gardeners apply a dense covering of leaves which cover most of the top. Strawing up the plants is also very popular, and covering the plants with pine boughs is also excellent, the object being simply to keep the sun off the wood and to maintain more even temperature and conditions around the plants. The ground must be well mulched with fairly good manure after the ground has frozen a little on top. Standard or tree roses should be bent down and buried slightly. We have tried strawing them also, but have always had the best success by burying.

Perennial borders

IF THE perennial borders have not been cleaned up already that little bit of work had better be attended to at once. Cut down all dead flower stalks and burn them. Clear the ground in between the plants of all weed growth. After the surface is slightly frozen, a mulch of good quality manure may be applied. All the perennial grasses that are near buildings of any description should be cut off and burned because they are very inflammable. The only reason for cutting them now is fire precaution. Remote from buildings they may be left alone since they make a good winter effect; leave them until spring whenever possible.

It is also advisable to keep leaves raked away from buildings. But fill the rhododendron bed with leaves, which afford the finest protection for the plants and in time decay into a soil that is simply ideal for the bed. Surplus leaves may be stored elsewhere to rot. But do not sacrifice the winter blanket over the ground just to have a compost heap. The mulch is of more importance.

The most important thing to see to for winter protection is the mulch. Covering the ground is far more effective than covering the tops alone

Pansies for spring

PANSY beds set out last month for early spring flowering must be covered with salt hay or leaves before heavy freezing weather sets in. The mulch should be applied just as soon as the plants have been slightly frosted and hardened. This can be followed in a few days with a light covering of hay. A great deal depends upon finding a suitable place for storing your hydrangeas over the winter. A cold yet frost proof cellar where the air is quite stationary, makes an ideal place. Keep the plants on the "dry side" when resting, which means, don't give water enough to make the tree wet. Bay trees must now be stored for the winter. The mistake too often made is keeping them too warm and wet, which promotes a soft, sappy growth. Maintain the temperature between 40 and 45 degrees, and water very sparingly.

Bay trees and Hydrangeas

Still time to plant

IT IS not yet too late to plant perennials, though of course, it should be done just as soon as possible. We have always had better results from anemones planted in the fall, but any of the hardiest perennials, such as rudbeckias, iris, hollyhocks, helianthus, phlox, etc., can be moved now with absolute security; of course, mulching them after cold weather sets in. Plants that are soft and sappy by nature must not be planted in the fall, however; such things as campanula, eremurus, anchusa, or the pompon chrysanthemum all have soft fleshy roots that will not as a rule stand fall planting.

Certain plants, listed as tender, require protection during the winter. In most cases it will be found that such plants will endure the winter if some scheme be arranged so that water is shed from them and not on to them, with an after covering of leaves or litter. For water shedding, boxes or boards can be used or a mound of earth will prove sufficient.

Plants for the Greenhouse

BE SURE that all bedding plants, such as coleus, geraniums, alternanthera, etc., are not being neglected, as your next season's supply depends upon these plants, and much depends upon the quality of your stock plants when it comes to propagating later on. Plants that have been benched for forcing, such as antirrhinum, heliotrope, mignonette, etc., should be kept well cultivated and watered very carefully this month. In fact, everything in the greenhouse should be watered carefully at this season of the year, as we are now going into the short days.

Plants in Pots

ALL pot plants, such as calceolaria, cineraria, cyclamen, and primula should now be placed on the benches where they are to be flowered. They must now have good care, with a sharp lookout for insect pests as these plants are very subject to these pests. Be prompt to apply the remedy at once. Don't feed too freely at this season, in fact if you used good soil when potting, no feeding need be resorted to as yet.

Forcing Begins

CAMPANULAS for forcing should now be in large pots and placed in the coldframe. They must be kept cool and watered very carefully until a little later on, when they can be brought inside. Early lilies should now be brought in to force. These will stand a high temperature and plenty of feeding when they show bud. A few early Paper White narcissus can be forced for early flower. Some of the French grown narcissus can be brought in late this month.

Roses, Carnations, Chrysanthemums

CARNATIONS should now be growing rapidly and while pinching has been resorted to up to the present time, it is now time to let some of the flowering shoots mature. Do not feed to any extent. An occasional dose of nitrate of soda in solution, however, will keep up good growth.

Don't let the roses get mildewed. This is the time when you cannot ventilate quite so freely, but you have the advantage of fire heat to keep the house dry. It is good practice always to have the ventilator open even though it is only a crack; this will prevent the house from getting stuffy. Chrysanthemums will be finished shortly, and we should endeavor to save stock plants for next year. Many make the mistake of keeping these plants in a warm greenhouse over winter, and in spring the cuttings are soft and sappy and do not produce good stock. The plants should be kept in a very cool place—a dormant fruit house or coldframe—where heavy freezing weather can be kept out. Be sure the plants are properly labelled before they are put away.

Sweet Peas

SWEET peas should now be growing rapidly. Do not make the error of trying to force them a little more by raising the temperature, nor by too frequent feeding. Sweet peas delight in a temperature of 45 degrees, and any attempt to force them with a higher temperature is ruinous. Be content with a robust but rather slow growth to produce high grade flowers.

Vegetables under Glass

BEANS can be sown a couple of times this month, and the sowings made last month should now be ready for staking. Short brush, about eighteen inches long, is ideal; set the sticks up alongside the row. A sowing of beets and carrots can be made this month right on the benches where the crop is to mature. Cauliflower, lettuce, and cucumber should all be sown. To keep up occasional crops two sowings should be made of the cauliflower and lettuce. Of cucumbers, one is sufficient. The cauliflower and lettuce are sown in pans and afterward transferred to thumb pots from which they are benched when large enough. The cucumbers are sown in 2-inch pots, one seed to a pot, and benched when large enough.

A sowing of melons made at this time will bring the crop in at a good season of the year. It is also a favorable growing season, as after the plants are benched, they will have the benefit of the days becoming longer. Sow the seeds in 2-inch pots and when the plants are large enough transfer into 4-inch pots from which, when well rooted, they are planted into hills.

Tomato plants that were started early and are carrying a lot of fruit had better have a little additional plant food which is best supplied by mulching. Mix up a good rich mixture and apply a couple of inches of it to each hill. This is preferable to liquid feeding at this season of the year.

Storing Root crops

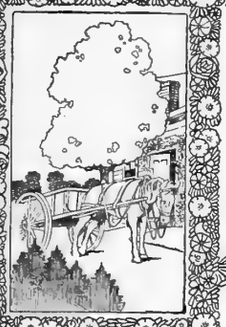
ALL root crops, such as beets, carrots, chicory, celeriac, salsify, turnip, rutabaga, and sea kale should now be lifted and stored for the winter. Some people place them in cellars, but outside trenches answer perfectly well. Bury some large packing cases in which the roots can be placed (such as bulbs are shipped in). The top is covered with boards and then some salt hay with a covering of earth is placed on top of this. When severe freezing weather sets in, an additional covering of leaves or litter can be used to keep out the frost. Make vents through the earth so that they can be opened up in mild weather. Select high ground for storing and dig trenches about six feet from the boxes on each side and throw this soil toward the cases so as to keep the water away.

Celery

CELERY must now be placed in winter quarters. Some leave it where it grows, hilling it up well and covering with leaves or litter to keep out the frost. This I consider the best method where only small quantities are grown. Another method is to store in cellars, which has one disadvantage because the celery becomes stringy. I think the best practice for large quantities of celery is to store it in trenches. The idea is to select a dry spot, store the celery in a trench that is deep enough so that the tops are about level with the surrounding grade. Cover the plants with a few inches of earth and then mound up, using leaves or salt hay in courses between the earth. This will keep out the frost and insure dryness. After the top is crusted by freezing, a good covering of leaves or litter can be applied as a further frost protection. When taking out the celery, always work from one end.

Cabbage is stored in a similar manner. The heads are placed in the trenches, upside down — the whole plant is lifted entire — the soil mounded up and the same protection given as for celery. French globe artichokes must be protected with care not to overdo it.

Protection for the partly tender shrubs can be given with any available material: burlap, mats, straw, corn stalks, etc. *But don't forget the mulch!*



Roberta of Roseberry Gardens

By Frances Duncan
Decorations by Jack Manley Rosé

Roseberry Gardens is not a historic account of an actual nursery, although I dare say it is typical of other days and many of the older nurseries, when the nursery business was more leisurely and perhaps more scholarly than to-day. To one who has ever been in touch with the growing of plants there is a poetry and charm in the life of the place which no other business possesses. And if the reader finds a little of the sheer happiness there is in having to do with the exquisite young life, the story will have been worth while.

I

ROSEBERRY GARDENS is an adorable place of a May morning. The brown old earth fairly sings with color.

The flat plowed land, a few days ago stretched acre after acre in dull monotony of nursery squares, has changed as suddenly as if the old earth were Cinderella and May were the Fairy Godmother. The commonplace has vanished. In its stead is a wonderful garden laid out on a splendid scale: a great parterre, where broad grass paths separate wide beds of radiant color—white, through all the shades of rose to deepest crimson, and from white again through all the yellows to flame color and deepest orange—the great squares are ablaze with color. The only green is the green of the broad grass paths, the young foliage of the oaks in the distance, and the smooth, close-clipped hemlock hedge that divides the azalea plantation from the drive.

And the peculiar charm of it all is that these brilliant parterres of marvelous color are not dominated by a huge, impressive pile of a house—a mansion which seems to say, with a patronizing wave of the hand toward the garden, "Oh yes, very handsome. These are my clothes; this is my setting—a fairly suitable accompaniment to my magnificence."

At Roseberry Gardens it is the plants that are in possession; the flaming azaleas, the magnolias and all the lovely host that are the masters. As for buildings, there is an unpretentious little affair, low and almost dingy, scarcely to be noticed if it were not for the brilliant magnolia at its door; behind it stretches a long, low packing shed and in its side white-washed greenhouses bury their heads. But as for these, "Merely our caretakers and nurses," say the gardens.

Instead of the lady of the manor walking along the broad paths of magnificent parterre surveying her possession, it would be elderly workmen in blue blouses and overalls, that you would meet of a May morning, probably each with a bit of a limp, for rheumatism is apt to touch an old gardener. Or you might see Rudolph Trommel, short and broad, with a beard like a gnome, and a basket on his arm going about among the plants like an elderly Troll, clipping here and there, peering carefully at each over his gold-rimmed spectacles—looking for treasure also, in veritable Troll-fashion, for a wonderful new color or some variation of keen interest, now and then touching or lifting the lovely heads with adoring fingers and wonderful gentleness.

Nowhere, I believe, are plants so loved as in a nursery. Here they have nothing of the flippant, casual treatment that falls to their lot elsewhere. The very fact that they are to stay but for a few years serves but to endear them the more: for, like the young folk in a family, as soon as they are well-grown they must leave the home to make their way in the world and take their chance of treatment; while the gardeners are like the parents who must stay at home and watch from a distance.

"How *could* you, Michael?" said old Rudolph reproachfully to the white-haired Irishman who, marshalling two workmen, was approaching along the grass path in the morning when our story begins. The workmen were pushing a small hand-cart loaded with young magnolias.

"How c'ud I what, Mr. Trommel?" asked the man addressed as Michael, cheerful and ruddy of countenance, with a mustache like Prince Bismarck's. The red kerchief knotted around his neck served to strengthen the impression of the Iron Chancellor.

"How could you sell that Gloria Mundi?"

"Indeed, and what was it here for?" queried Michael. "And 'tis gone to Mr. Geor-rge Gold's place, and 'tis a foine position it will have there. If it had been the Glory av Hiven I'd have sold it!"

"It was the finest Gloria Mundi we had!" said old Rudolph sadly, as he turned again to his work.

To a horticulturist, like Rudolph Trommel, plants are not for personal aggrandizement, not to make his place look handsome, nor even to show his skill as a gardener. They are as dear children, to be petted, loved, cared for, each with its own peculiar gifts; each new one a thing of wonderful possibilities. There is the same intense happiness in its success, the same eager interest in its future, the same poignant disappointment in its failure that a parent has for his child.

It is for this reason, because of this attitude, that the gardens of horticulturists and plant lovers are not often notable for their "effects," and that it is easy enough for a landscape gardener to pick flaws in them. He may care no more for putting a plant in an effective position than a mother cares for placing a child where it will look decorative: what interests him is the plant's comfort, well-being and happiness. Old Rudolph, for instance, would see with pleasure that a Judas tree showed wonderfully at a distance with the delicate white of Halesia for company. He may even have advised placing it there. But he cares exactly as much for the Judas tree in a row with a dozen of its fellows. "Of course," he would say, "he knew the child would look well in that position"; he can see it in dozens of other admirable positions—if one cares to put it there!

On this particular May morning, after leaving old Trommel, the white-haired Irishman whom we saw before led his workmen and the cart at a brisk pace along the path past the bright azaleas through the hemlock gateway and along the narrow drive to the little office-building. As the small cavalcade reached it the door opened and a young girl appeared on the threshold.

"Oh, Michael! I want you dreadfully!"

Michael stopped.

"Take them plants to the shed, b'ys," he said briskly, addressing his elderly assistants. "Here's the tag for them, Give it to Conklin. Quick! Run!" He spoke with such infectious energy that the old workmen disappeared on a brisk trot. Then he turned to the speaker with a smile as infectious as his order, and took off his old felt hat with a bit of a flourish.

"Good morning to you, Miss Davenant. 'Tis yerself that looks like a piece of the morning!"

As she stood in the dingy doorway, the girl was good to look upon. The sunlight touched her coppery hair to red-gold. She could not have been more than eighteen, and the roundness of her face, the troubled look about the mouth, made her look even younger. But there was a boyish clearness and directness in the gaze of the gray eyes and a decision in the chin that contradicted the dimple. She wore heavy, English-looking boots that had been afield already that morning and a rough, brown tweed skirt, rather short, and a jacket with deep pockets.

She put her hand into one of the pockets and pulled out some slips of papers.

"Whatever is the trouble, Miss Davenant?"

"Tompkins," answered the girl briefly.

"Him again!"

"He won't take the cases for the Brazil shipment—says he can't. He's half the load that Washy has and those boxes ought to go."

"Is that all?" exclaimed Michael. He followed her into the office and went briskly through to the packing shed, where were the large wooden cases and the protesting teamster. Outside, through the doorway, the horses and the waiting, half-loaded truck.

"Ye cu'dn't manage to get the boxes on, Tompkins?" he said sympathetically. "'Tis a shame. The b'ys here will help you. Come, lads, up with them!"

"No, no!" protested Tompkins, as one of the offending boxes was almost in place on the truck, "I didn't need help to get them on ——"

"I know, that's the foine man," broke in Michael, "'tis the ne'er-do-weels that are afraid of their jobs, but the b'ys may as well help you. Come, lads up with the other!"

"I don't want them on; I won't have them!" protested the luckless teamster. "I can't go to all those places. I'll never get home!" He was a small, dark man with the little chin beard, midway between a goatee and a full beard which clergymen wore in the '60's.

"Give me your list, Tompkins," said Michael O'Connor soothingly. "Pier 36, Pier 15, the *Mary Powell*," he read. "It w'ud be hard for a stupid lad or for a greenhorn, but 'tis a clever man like yerself, Tompkins, that can do it and do it foine. Thim big cases ye'll put off first, and the rest goes as aisy as a May morning. Ye'll do it foine, ye'll plan it so there's not a hitch. Ye needn't be worried, man. Ye don't re-elize, Tompkins, what a cliver teamster ye are. But I know how ye felt," he concluded sympathetically, "fearing ye'd have to disapp'int the young lady on a pretty morning like this. Up wid ye now! Here's yer receipts an' the ferry-money."

"How did you ever do it, Michael?" asked the young secretary as he re-entered the office. She turned from watching the grumbling teamster as he went down the road between the great magnolias.

Michael grinned and nodded complacently as he settled the Bismarckian neckerchief.

"Molasses," he said briefly. "It seems a bit sticky, but 'tis the best thing I know to make the wheels of life run smooth."

Chapter II

The young secretary lived in a great old-fashioned house, square and white painted in the older part of the town.

The freshet of village improvement had struck Meadowport, sweeping away the old boundaries, carrying off the trim picket fences, thrusting new little houses, coquettish and impertinent and highly colored, all gables and turrets and piazzas and gingerbread trimmings, between the old houses, spoiling the beautiful spacing, troubling the quietness of the wide, elm-fringed street. But the Davenant place remained unchanged. Not even a flower bed broke the smooth stretch of green under the great elm trees. The picket fence stood its ground, dividing the lawn from the garden and running beside the shady sidewalk, reaching past the house and the garden until it reached the place beyond.

The garden had not changed either. Behind the box borders were stiff little bushes of flowering almond, very soft and pink for all their stiffness, tall corchorus bushes that met over the central path. Beside the fence was a row of currant bushes with broad blades of iris coming up between; in the shady corner under the fragrant lilac bushes there was lily-of-the-valley.

Because of its long and intimate fellowship with human folk, an old garden has a curious charm and appeal. Whatever has happened in the house of which it is a part—birth and life and death, separation and meeting—there is the same sweetness and fragrance each recurring year for the household, whether saddened, or gay and content. For which reason the lilacs, the lily-of-the-valley and the little almond bushes are woven into the life and feeling with a sweetness and a poignancy that the gardenless folk know nothing about.

Inside, the house had changed as little as the outside. You passed through the gate up a walk of small rounded cobblestones and rapped with the great brass knocker on the wide door, beautifully paneled, and while you waited looked up at the large oriel window with leaded panes. Within, the house was dim and quiet, with heavy, handsome furniture. You spoke quietly when you stepped into the great parlor—at least the young secretary did—for the chairs and the long Chippendale sofa stood as they had stood before she was born. Even the whatnot in the corner bore the same ornaments on the same shelves—the carved ivory elephant from Japan, the boxes of sandalwood from India. Even at eighteen, Roberta Davenant had the idea that if she did anything amiss in that room or sat in the wrong chair, the chairs and tables would know it, would express their opinion of her irreverence when she was gone and would whisper it to her aunts.

The only modern thing in the place was Miss Roberta. She lived with three maiden aunts, all more than sixty, dim and stately and decorous like the furniture of the old house. In fact her aunts, with their dark curls that should be gray, and clear, pale complexions, reminded Roberta of the heavy black walnut, marble-topped furniture of their bedrooms. The girl herself was more akin to the vivid color of the garden.

Roberta Davenant had been, from the first, a surprise in Meadowport. Her mother had been even more of a surprise, for Robert Davenant, a hard-working-lawyer and staid quiet bachelor until forty-three, had the experience which sometimes, but rarely, befalls a New Englander, when a temperament starved and repressed broke suddenly free, sweeping his life as clear of tradition as a freshet sweeps a mountain brook of last year's leaves; and he married, after a sudden and impetuous wooing, a girl twenty years his junior, a Southerner with copper-colored hair and vivid color and as gay as a bobolink on a June morning. And he brought her back to the old house at Meadowport; and Meadowport looked at her and disapproved. Meadowport feared she would make Robert Davenant unhappy; that she would prove "flighty," for with that hair and coloring one "never can tell," and Meadowport waited ominously.

But Robert Davenant grew ten years younger and radiantly happy. She brought flowers into the house, bowls of great crimson roses in the dim corners,

and later woke them to life with warm hearted fiery marigolds; and music, for she brought her violin and coaxed Miss Adelaide to play a stiff accompaniment, coaxed her to play the old-fashioned dances while she taught Robert Davenant to dance. She brought her saddle horse up from the South and made Robert ride with her early in the morning. And the good folk of Meadowport would see them pass, laughing like children, and said again that they hoped she would settle down before she ruined Robert Davenant. Even Miss Adelaide protested: "Dear child, the early morning is the time for duties, not for pleasures."

"But, Adelaide," said young Mrs. Davenant, fixing her clear brown eyes on her sister-in-law, "why did God make the early morning so exquisite if it were not that he wished to pull us out of our houses? The rest of the day isn't so pretty. You've no idea how wonderful the light on the mountains was this morning. If you would only come with us once!"

But Miss Adelaide shook her head with a reluctant smile, and hoped, like Meadowport, that Margaret would "settle down." Major Pomerane, the next neighbor liked her and when she sent a plate of hot Sally Lunn responded with a jar of mince meat of his own making—wickedly stiff with brandy, but very delicious. Serenely unconscious of the general disapproval, young Mrs. Davenant invited the frowning Meadowport folk to dine and sup. She invited with a Southern readiness and ease and frequency that Meadowport, (used only to invite on rare occasions and then after careful consideration and much preparation), was astonished, and disapproving—but came. An invitation was a serious thing not to be given lightly, but soberly, advisedly and in the fear of God. But young Mrs. Davenant invited to breakfast, merely because the roses were in bloom; and would have supper served on a garden table under the great elm trees.

"But my dear," remonstrated Miss Adelaide, "it has never been done!"

"How dreadfully unappreciative they must think us!" said young Mrs. Davenant.

"Unappreciative, my dear?"

"The elms," explained young Mrs. Davenant. "They have been casting those exquisite shadows for a hundred years, and to think that no one cared enough to bring a supper out to have it in company with them! Don't you think it time, dear Adelaide?" Then she would put a soft young arm around the older woman's neck, put her cheek against hers like a child. "Please! You won't dislike it. Truly you won't!"

And Miss Adelaide, who petted her almost as much as did Robert Davenant, would smile reluctantly. "Whatever pleases you, dear child."

And so neighbors and friends would breakfast with the roses and have supper under the great elms; they came with alacrity and passed the time happily enough, but with a certain guilty enjoyment. It should not have been so pleasant to do what "was not done." And after they went home they said that "Mrs. Robert Davenant was 'different,'" and that you "never could tell," and that they hoped for Robert's sake and his sisters that she would "settle down," that it wasn't quite right.

Poor child! She did settle down. For after two luminous years which made the first part of his life seem blank and lifeless and the last ashes, she was laid in the little churchyard beside the decorous Davenants, and Robert was left suddenly aged and broken, more silent than ever, with a coppery haired baby in his arms.

But he brought the flowers into the house as she had taught him, the red roses and the marigolds and the tall larkspurs, and he took his baby into the garden where she played with the poppies and hollyhock blossoms and laughed and cooed at their warmth and color. Then he, too, "settled down" to the churchyard and the little Roberta was left to her three aunts, as out of place in the dim, stately old house as a humming bird in a family of owls.

Chapter III

At eighteen Roberta was still considered by Meadowport as an experiment.

The Davenant ladies did their best. Miss Adelaide taught her the piano, for Miss Augusta she dutifully embroidered, but the embroidery would get taken out to the garden and lost and forgotten. Also she went dutifully to school. But always in the morning, if she were not miles away up the hill to hear the thrushes, you could have found her in the garden.

She made friends with Major Pomerane, an elderly bachelor who was eyed askance in Meadowport, for he never went to church and he had fast horses and won prizes with them at the County Fair. From the time Roberta was ten he would let her ride anything he had, and if she was not afield on her own account she might be found over at the Major's watching his darkey groom the horses, and taking a hand at it herself, if it was the chestnut colt. If not there, she would be sure to be in the garden, poking with trowel and slim brown fingers among the plants.

She made friends with Rudolph Trommel, of the famous Roseberry Gardens. who used to stop and chat over the garden fence on his way to work, and look critically at the plants.

"Uncle Rudolph," she said to him one morning, just after her eighteenth birthday, "why couldn't I be a gardener?"

"I consider you a fery good gardener," replied the old man ponderously. "Those larkspurs are the best in town."

"I don't mean just this," she said looking quickly around the old garden, "I mean to know really about all the plants and the wonderful new ones, and how they are grown. Do you know that great magnolia at the old King place, which was once a botanic garden?"

Old Rudolph nodded.

"There was a staging round it once high up and lots of little magnolia plants in pots, and they bent down young branches of the old tree and grafted them, one to each little plant. That was an old way. I want to know how it's done now. I want to do it with those!" she concluded, holding up earth stained brown hands and spreading out slim capable fingers. "Is there any reason why I couldn't?"

"Only that you are not a man," said Rudolph Trommel.

Roberta sniffed. "What has that to do with it!" she said hotly.

"Chust this. So far as I haf obserfed, among plants, there is of course a slight structural differentiation in the sexes. I haf yet to obserfe a marked difference in energy or in strength or in usefulness; und, in any difference in energy the balance would be in fafor of the female. In human kind there iss this difficulty. Suppose a horticulturist iss making experiments. Und then suppose there iss a baby with the colic. If the experimenter iss a woman und if it iss her baby—alas for the experiment! If the experimenter iss a man und if it iss his baby, he iss sorry it has the colic: that iss his wife's affair. He goes on with the experiment. If the woman iss not married und has no baby to haf the colic—then it is relatif, aunt, friend, brother that calls for her when in need of aid. Und—she drops the experiment. The man is sorry, he sends his sympathy (by his wife), he does not drop his experiment. No one expects him to.

"It is not a difference of intelligence, of energy, of ability, but of concentration. It may be confention, it may be instinct—the woman feels the social, human claim binding in a way that the man does not. That iss the difficulty. It may be ofercome by concentration und by uncultifating the natural und expected-by-society female altruism."

"Um-m," said Roberta contemplatively, then she changed the subject. "How did you learn, Uncle Rudolph?"

"I? When I wass a lad at Zurich, I learnt there what there wass to know about plants; when I had what could

be learnt there, I put my bundle on my shoulder, *und* I went to France, und I worked one year, two years, und I learned roses. *Und* then I went to the rhododendron growers und I worked there. I learned what they had to teach. *Und* then I went to England—I worked there in the nurseries one year, two years. I went to one nursery; I found they knew nothing; I left. I went to another. I learnt what wass to be learned there. *Und* then I went to Boskoop, for I had grown much interested in azaleas und rhododendrons, und I worked there. Und at night always I read, und when I found the man lied I burnt him."

"What?"

"I burnt his book in my fire. If he did not gif the information that one does not know, that wass nothing. But if he stated as a fact something he had not proved, he wass not to be trusted. There wass one man: he had been my authority for ten years. But he said something. My experiment made me think it wass not so. I tried again and yet again. The same result. He had lied, he had said a thing wass true that he did not know to be true. I burnt him. He should give no false information to any one else after I wass dead." The old man ended calmly.

The girl's eyes laughed, but her mouth was grave.

"Have you many books left, Uncle Rudolph?"

"A few. With plants one gets the knowledge here," he tapped his cap with his stick, "und here"—he held out a broad short-fingered capable hand.

"That's where I want it. Would they give me a job at the Gardens, Uncle Rudolph—like you had at Boskoop?"

"There is no woman there but one, und she iss in the office und writes und that sort of thing."

"Accounts?" asked Roberta anxiously.

"No, no, she hass not intelligence. Henry Sterling does the accounts. I think she leafes soon also. She iss to be married soon. That takes no intelligence."

"Um-m," said Roberta thoughtfully, as she watched old Rudolph go down the street, a thick broad figure stumping heavily with his cane, and then turned again to the phlox she was dividing.

"I wonder what she does? Dictation I suppose, that sort of thing. Is there at probably 8.30. If one gets there at seven," she laughed to herself, "there'd be apples of wisdom to pick up like the apples for the wise early little pig in the nursery story. Anyway one could try.

Chapter IV

So it happened that September found Roberta Davenant at work at the famous old Roseberry Gardens.

"But, my dear," protested Miss Adelaide, "none of the Davenant ladies have earned their living!"

"More shame to them!" said Roberta cheerfully. "If I were a boy I'd have been at work two years ago instead of living off you. I can't help not being a boy, Aunt Adelaide, but I can help loafing. Besides, haven't you wanted me to settle down? And if getting rooted in a garden isn't settling down, what is? It will make me very happy and I'll bring you home such pretty things!" she ended coaxingly.

Roberta fitted at Roseberry Gardens as she had never fitted into the Davenant house. She liked it. She liked the head of the firm, Mr. Horace Worthington, a little old gentleman with charm and rare courtesy of manner, a scholar and a botanist. He was slight and silvery haired and wore large gold-bowed spectacles. In fact, it seemed as if everyone at Roseberry Gardens had silvery hair or gray. The only young life really evident was Roberta herself and the freckled office-boy, Barney. There was, it is true, a sprinkling of sons and nephews among them, and there was Conklin the packer, thin, nervous, rapid, and black-haired; but the impression of the workmen's heads one saw bending here and there among the nursery rows was of gray and silver, like the big Alcock's spruce at the drive end.

The young secretary liked it all. She liked the excitement of packing and shipping: the scent of fresh earth from the heaps of little plants awaiting their journey, the fragrance of young evergreens that made the long packing shed "smell like Christmas," as she said.

She liked the romance of it: the Christmas trees that were started south in late September to bring a northern Yule tide to little South Americans; the trees that went West like valiant pioneers to the treeless regions to combat drought and winds and make a foothold for others; the stout young junipers that were sent to the sea coast to protect wind swept gardens from the northeasters.

She loved the heaps and heaps of rose bushes, only brown stems and roots in the autumn that were to wake up in the spring in a new home to make some bit of a wilderness blossom. She used to wonder how they'd like it in their new homes. There was no cause for worry about the delicate stately camellias that went away most carefully packed and attended. Those were sure, like fine ladies, to get most careful treatment simply because they demanded it!

And she liked the people who came and went. Those that bought but a few plants and chose them most carefully, taking home as a prize to the little garden some lovely new thing; little old ladies whose one outing in the year was a visit to the famous gardens and the purchase of a long desired plant, Daphne or Andromeda, and took it back with pure delight. Most of the owners of the large places, if they visited the gardens, were real plant lovers and enjoyed to the utmost the beauty of a new sort. If they weren't plant lovers they didn't come, but sent their gardeners, usually a Scotchman or German or Englishman who knew and loved the plants. The dealers Roberta hated—the hard commercial type to whom a plant was something to make money of in the handling; the prosperous looking and florid gentleman who would look casually at a row of exquisite young mountain laurel—as poetic a flower as ever was made—and say patronizingly:

"Pretty good material. I'm using a lot of it." Roberta went back to the office in disgust.

"Hope you didn't sell him any of those lovely things, Michael," she said when O'Connor came into the office. "I wouldn't mind his having privet. I think the Lord must have made catalpas, and privet for just such people—those and Thunberg's barberry! None of them has any feelings!"

Michael laughed.

"You're as bad as Mr. Trommel, Miss Davenant! Whatever would Roseberry Gardens do if it wasn't for Michael to forget about feelin's and sell plants? You've not the right understanding.

"'Tis an ar-rt, to sell plants, and a foine art. Ther's no pleasure in life like it! To take a man, who has no idea in his head but to buy a bit of somethin' green to stick somewhere and that as cheap as he can, and to wake him up to see how foine is this and this and this! To make him feel there'll be no peace in his sowl until he has a *Magnolia stellata* or a group of foine azaleas! 'Tis an achievement! And once he larns to buy, he'll buy plants till the day of his death, and thin he'll leave ordthers about plants in the cemint'ry lot and its maintenance.

"Still, I had trouble to-day. Mrs. Hewson was here—the old lady—wit' her daughter. Now, the old lady'll buy foine if she's let alone. But Miss Hewson—it's homely she is, and not young neither! And 'tis nothing she thinks of but 'I'm Miss Hewson, I am! And I own the whole State of Pinnsylvania, I do!' And it was—'Now mother! You don't want that!' 'Now, mother, that's quite like a snowball we have!' 'Now mother! It's time we were going!' At last I c'ud stand it no longer.

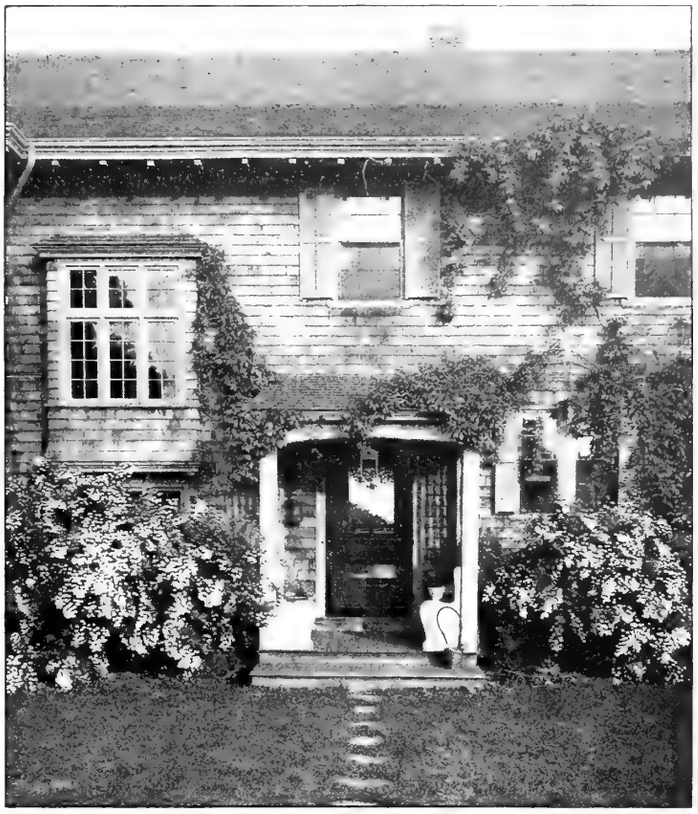
(To be continued)

Garden Pictures With Simple Material

Photographs by JESSIE TARBOX BEALS

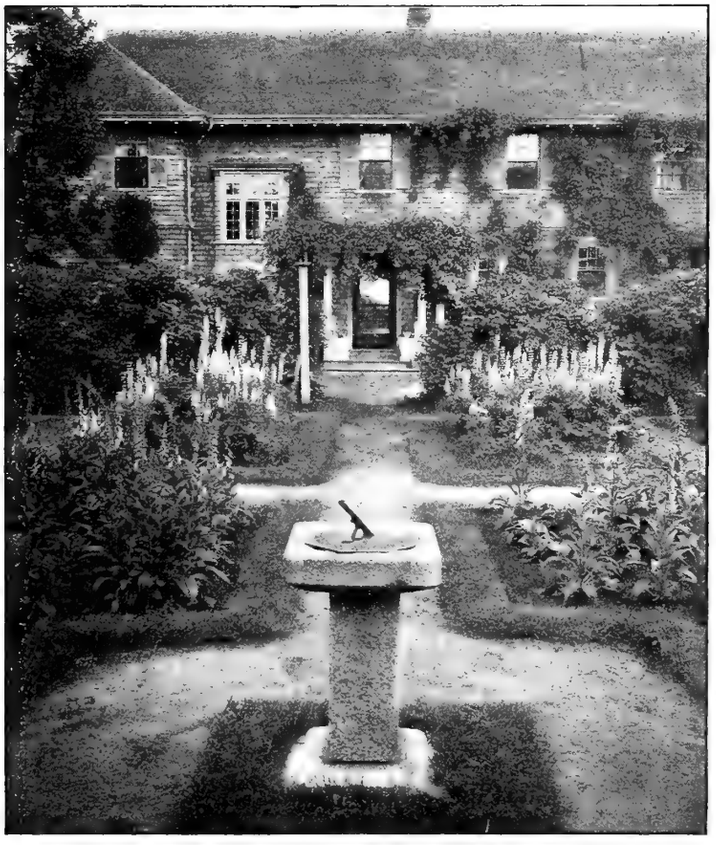
THE doctrine of massed planting has been preached over and over again, by various writers in various publications, but how many amateurs realize what massed planting really means? To the person with a small or medium sized garden, 50 or 100 plants of any one kind is a stupendous collection; but it is only by such quantities that rich, glowing colors can be obtained and the appearance of comfort, well-being and permanence given to the garden.

In this Maine garden, there is not a profusion of many kinds of flowers, but each bed is devoted to one variety and many plants of it. The house faces the sea, and is built with a wide central hall with front and back doors, so that when standing in the middle of the garden one can look through the house and see the water in the distance. Planted close to the house, on both sides of the small porch, covered with Virginia creeper and crimson rambler rose, is Spiraea rotundifolia, which, when in full bloom, makes a marvellous splendor. Stepping stones, leading from the porch to the garden walk, form a rather unexpected feature. Great hedges of Rosa rugosa extend either side of the main walk, and form a boundary line between the house and the garden. Two large beds of lupin are directly beyond the hedge, and are separated by a cross garden walk from beds of foxglove. Another of the beds is devoted to German iris, a mass of beauty in June, and so on. One plant, and quantities of it, in one place.



The garden is enclosed on two sides by a pergola covered with vines, in front of which are planted poppies, hollyhocks, coleus, and many of the other plants that always make a hardy border, with its continual bloom, so interesting.

An interesting and rather distinctive feature in this garden are the broad grass borders to the flower beds, which serve to enhance the beauty of the flowers. The vine clad walls of the house serve as a fitting background for such beautiful pictures.



Scenes in a Maine garden which illustrate how rich effects are produced by using a few plants in heavy masses

Fall Bulb Planting from a Different Viewpoint—By Carl Purdy, California

THE GENERAL PRINCIPLES OF BULB GROWING TOLD ONCE AGAIN BUT WITH SPECIAL REFERENCE TO THE PECULIAR CONDITIONS OF A WARM WINTER—HOW THE DIFFICULTIES OF THE PACIFIC COAST CLIMATE ARE OVERCOME

Japanese iris

BY ALL means the bulbs for spring flowering should be liberally planted in Northern California, Oregon, and Washington. And the gardener of Southern California need not deny himself this great source of enjoyment although he must comply more closely with some conditions peculiar to this coast.

On the whole we can grow such bulbs with as good success as is attained East of the Rockies or in Europe.

Some things we can grow even better, most sorts as well, while there are a few which do not often give us adequate returns.

In the cooler portions of Northern California unusually fine flowers can be grown, while in Oregon and Washington and on up into British Columbia conditions are ideal for the spring flowering bulbs. By Southern California is meant all of that region south of San Luis Obispo County on the coast and of the Tehachipi Pass in the interior; and this would include in Northern California all of the great San Joaquin and Sacramento Valleys as well as the bay and coastal regions. Of climatic conditions there I will speak later.

Certain broad general rules can be laid down which apply to the culture of such bulbs as tulips, hyacinths, daffodils, crocus, gladiolus and in fact to all bulbous plants which flower early and ripen perfectly every year, and of course form new root systems each season.

I. The flower for the coming season is already formed in miniature in the bulb that you plant in the fall, and the first essential of success lies in buying good bulbs. If a good flower is not already formed in the bulb no care will develop one.

II. A long season of root development is necessary. If this period is too much shortened even the best bulbs will give indifferent results. This is why early planting is advocated by all experienced growers.

III. The growing bulb must be in soil and conditions which will give the healthiest growth of root and leaf in order to store up energy for its flowering.

IV. If the bulbs are to give good results the following year they must have good growing conditions *after they flower* for a period sufficiently long to allow them to fully develop and ripen; and they must go through their dormant period under such conditions as will not impair their vitality.

Now, applying these rules, I would first urge the purchase of good bulbs. Buy named sorts, as mixtures are likely to contain a large percentage of the cheaper sorts and of bulbs that are off grade. Buy of a reputable dealer and pay a fair price.

Cheapness and quality go together even less frequently in bulb buying than elsewhere. No need to buy high priced novelties unless you have money to spare. As fine varieties are to be found among the standard medium priced sorts as among the most expensive novelties.

In applying the second requirement to the Pacific Coast we must take notice of the peculiar climatic conditions. Throughout Northern California there is very little really cold weather in winter. The rains set in during October or early November and there may be some frost, yet the orange is grown almost everywhere in this great section and in many places in large commercial quantities and 26 degrees above is as cold as it often gets. Along the coast and San Francisco Bay region the temperature is seldom low enough to injure geraniums or calla lilies. Only in the mountainous regions is the temperature lower at any time than 20 above, and that seldom. Southern Oregon is little colder while the winters in Northern Oregon and north along up the coast are mild.

In such a mild winter temperature bulbous plants begin making vigorous root growth as soon as they become wet and continue all winter without interruption, and the stems come through the ground soon after the first of the year. For this reason, too, very good success can be had with bulbs planted much later than is advisable in colder regions. Bulbs planted as late as January 1st will do well while I have planted in late February and grown superb tulips.

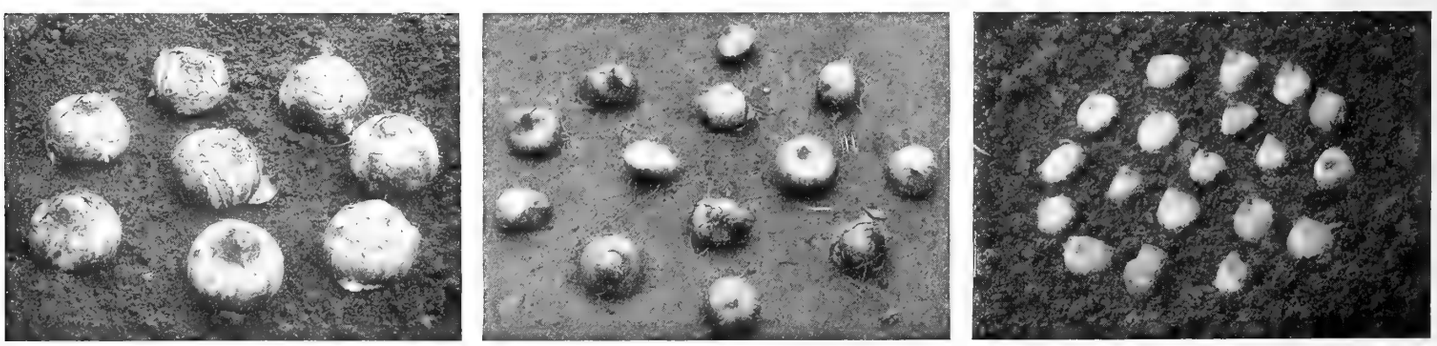
Double daffodil Silver Phoenix

I have never seen any advantage in very early planting, and September planting is impracticable with us because bulbs shipped from Europe cannot well arrive on this coast earlier than the last week of September, and it will not be often that bulbs are in the hands of the planter earlier than the middle of October. And that is quite early enough.

I can see very little difference between October and November planting; none, excepting with a few sorts such as crocus and Spanish iris whose bulbs do not keep well. I would not intentionally defer planting later than mid-November, yet if I could not get to it earlier I would plant without hesitation as late as Christmas, but no later. As a rule plan to plant as soon after October 10th as conditions will allow.

The next and all important point is where Californian methods must part company from those of the East and Europe. Keeping in mind the mild growing winters of California remember also that, as a rule, February brings a period of quite warm days. From February 27th, 1914, for many days the San Francisco midday temperature was higher than 62 in the shade, while in March a few days passed 90 degrees; and in the interior and in Southern California such periods are still warmer.

The inevitable result is that bulbs which have a liberal root system will be forced into bloom too rapidly, and that is the rock on which the Californian grower of early tulips and of hyacinths strikes nearly every time, until he learns that they cannot be grown as they are in the East; and it is



Plant bulbs in groups or masses rather than in straight lines. The pictures (left to right) show the relative quantities and distances to plant hyacinths, gladiolus, and tulips

the reason, too, why even with late tulips success is not always what it should be.

We simply cannot have the massings of tulips and hyacinths in open lawns or borders which are featured in all Eastern and European catalogues. Many of us have tried it and to our sorrow. I remember my own first experience in the shape of a round bed of tulips in a design in the open sun. February brought a few warm days and my poor tulips flowered with no stems at all and my hyacinths little better—yet I plant fine masses of tulips now and grow them taller and finer than in the East, but——!

Daffodils do not force so easily and do well in the sun, as do irises and gladiolus, yet even with them it is better to adapt plantings to meet the climatic conditions outlined above.

Not every year brings warm spring weather and occasional successes may lead some growers to overlook this point yet it is foolish to risk failure in this way.

The judicious use of shades and water is the remedy and in every garden there is some good position for the bulb beds. Remembering that the sun is in about the same position in October as in April, study the shadows in your garden.

An excellent position is on the east side of a building or of a tree or wall. The afternoon sun is always hottest and if the sun is cut off from two to five it is usually enough.

An ideally sheltered spot for growing bulbs in sections where the winter does not get really cold. Planting in the open must be avoided

A still better shade is one that shifts from time to time during the day, never allowing the bed to get very hot. A line of trees may give an admirable position, or several buildings may answer the same purpose.

The eastern or northeastern side of a clump of bamboos is another fine place and palm shades are good. The finest show of tulips in the West is along a driveway bordered on each side by great date palms. They allow the sun to come under them and the shifting shade has insured wonderful flowers year after year.

If cut flowers are desired still better results are to be had by artificial shades such as a lath protection or even the use of bamboo sprays set upright on the sunny side of the beds; and I use (with very great success) limbs of bushes three to five feet high set on the south side of cut flower beds. They give a filtered light even better than laths and insure very long stems. They are put on just as the buds begin to develop well.

The next method of insuring a long growing season and of retarding the flowering season when weather tends to force them too fast is by the liberal use of water. As a rule our winter rains are amply sufficient but if they are delayed an occasional winter watering will help. As soon as the buds begin to develop the beds should be liberally watered. Let this be especially liberal for daffodils, Spanish and English irises; and abundant for tulips and hyacinths. Do not waterlog your soil, yet never let it get the least dry at flowering time.

In a private letter the Dutch grower who stands first in Holland advised the liberal watering of Darwin tulips at the flowering time and if this is true in Holland it is doubly true in California.

Passing on to the third essential we have the same conditions as to soil and manure to meet as elsewhere.

Fine flowers cannot be grown in poor soil or soil that is not well drained. First see that the bulb bed is well drained. A tile drain or a layer of gravel or broken bricks under the bed will insure this although as a rule it is unnecessary. It is not advisable to raise the bed higher than the walk.

Fine flowers can be grown in almost any soil not alkali or water soaked. Sand, loam, adobe, rocky soils or alluvium alike give good results if other conditions are complied with.

To be sure if one can give each sort just what they best like better results can be secured; tulips, hyacinths, crocus and gladiolus like a sandy loam best, while Spanish and English irises and daffodils like a heavy clay.

Still, given a well enriched garden soil of any class with good drainage in winter and water when needed and the results will be excellent.

The best manure to use excepting for daffodils is a well rotted cow manure. Any well rotted manure will do. The best manner of application varies with conditions.

If the soil is workable there is no better method than that used in Holland. The Dutch take the soil out of the bed to a depth of about seven inches and then put a layer of manure an inch or two deep in the bottom. Soil is then put in to bring the bed up to the planting level. The bulbs are set and then covered. If the beds are long this is done in sections. If your beds are in well-kept grounds have burlap cloths to lay the soil on. I have great success with this method and it has one advantage in the fact that the manure need not be well rotted. In fact I often use fresh manure when other is not convenient.

If the soil is heavy and not workable it

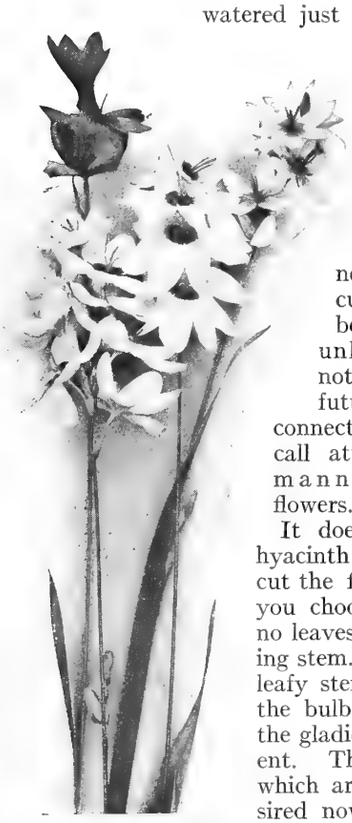
is better to spade a couple of inches of well rotted manure into the soil and then to lay out the soil as before for planting.

If the soil is very porous, or has a tendency to bake it is well to use a mulch of well rotted manure an inch or so deep put on top before the bulbs come through. It prevents packing on the one hand and drying out on the other.

Commercial fertilizers can be used to good advantage on all bulbs, yet the well rotted manure is better. When I wish the very finest tulips for cutting I use nitrate of soda at the rate of 200 to 400 pounds to the acre. This means from ½ to 1 pound for every 100 square feet. The nitrate is dissolved in water to form a saturated solution and when diluted with double the quantity of water, making ⅓ strength, is sprinkled on the beds at the period when the buds are developing. It is well to follow up with a sprinkling of clear water as the nitrate sometimes burns the leaves a little. It is wonderful how quickly the plants respond.

I like to use lime on bulb beds when planting as it insures sweet soil. Air slaked lime at the rate of five pounds to the 100 square feet will both sweeten and mellow the soil and daffodils in particular will be helped by it.

Bulbs demand a continuance of the same care after flowering as during and before. The bulb which is to give results the succeeding season makes most of its growth, or at least stores most of its starchy matter after it has flowered. The bed must be watered just the same until the leaves begin to turn yellow. Then water can be withheld and before the leaves are dry the bulbs can be dug if necessary. Never cut off the leaves before they ripen unless you care nothing for the future. In this connection it is well to call attention to the manner of cutting flowers.



Ixia and Sparaxis thrive wonderfully in California and have a remarkable range of colors

It does not hurt a hyacinth or a daffodil to cut the flower as low as you choose. There are no leaves on the flowering stem. But with the leafy stem of the tulip, the bulbous irises, and the gladiolus it is different. The long stems which are so much desired nowadays are apt to be had at the expense of the bulb. All of these bulbs simply must have ample foliage to ripen the bulb. If some leaves are not left the bulb will be dwarfed. At the very least the two lower leaves should be left on tulips and more are much better. It is hard to cut the bulbous irises without getting too many leaves, and the same is true of gladiolus. Perhaps with cheap bulbs like Spanish irises and the Bride type of gladiolus the better way is to enjoy the flowers and get new bulbs.

The care of the ripened bulbs is not a thing to generalize on, and much must be left to experience. I would not lift daffodils at all until they crowd. As a rule the third season is about right. If daffodils of the Poeticus type are not too thick I would not reset even then, as they resent any disturbance.

If there is any reason for so doing daffodils can be dug and after being dried off can be stored in any shady place until fall. It is just as well to dig and reset at once in the summer. My observation is that late tulips give better flowers the second year if left in the ground. It is not best to depend upon early single tulips for the second year. They might be fairly good but new bulbs are safer. If the bulb bed can be dried off after flowering it is just as well to leave the bulbs in the ground unless the ground needs to be worked or fertilized.

Hyacinths of first size are seldom good for much the second year. Get new bulbs for your show places and plant the old bulbs in some back place where the smaller flowers can be used for what they are worth; and, by the way, I would not buy first size hyacinths for outdoor planting. The best second sized bulbs are excellent and very fine flowers can be had from the "bedding" sizes, which are really third size named sorts.

Much could be said as to the arrangement of bulb beds to give the best effects but that is a subject by itself, and I will confine myself to a series of *dont's*.

1. Don't plant any bulbous plants close to walks in the central parts of your garden. Their flowering season is brief and the ripening plants anything but decorative.

2. Don't scatter any bulbous plants in long lines but plant in close groups with the bulbs from 4 to 6 inches apart each way. They are far more effective and more easily marked and cared for.

3. Don't think that you are going to secure a good effect with a few bulbs of each of many sorts. Better buy fewer sorts and mass.

Before passing on to bulb varieties I must mention a strictly Western problem and that is the pocket gopher. This busy, hungry, burrowing rodent might be described as a burrowing rat, and we Californians have all paid tribute to him. We all know his fondness for bulbs and roots and we all know his shrewdness in escaping traps, poison, and all devices for his hurt.

You simply must have him out of the way before you plant your tulips, iris, and gladiolus. He cares little for hyacinths and will not touch a daffodil.

A study of gopher habits and gopher extermination is too long for this article.

The pocket gopher, a peculiarly Western problem, hard to fight

They can be trapped with some few traps if you have a knowledge of their habits. Poisoning them in a garden is difficult. A gopher gun has been invented which is effective. A bellows fitted to a canister in which bisulphide of carbon gas is formed, and which is forced into their runs works well in level gardens where the soil is heavy or when it is wet even although light. *First catch* your gopher!

A very good protection for a bulb bed can be made with an underground fence. Dig a trench thirty inches deep around the bed. Drive stout stakes down flush with the ground or better projecting 6 inches above. Stand ¾-inch chicken netting thirty-six inches high in the trench and tack to the stakes. Then fill in dirt on both sides. This is a good protection and will last for years.

Anemones and ranunculus do well in all Northern California. In the bay and coast region they will thrive in full sun while in the interior light shades are needed; and in all cases the best results will be had in rich mellow soils. They can be planted as late as March.

Chionodoxas do very well in light soils and light shades. Snowdrops (Galanthus) thrive where chionodoxas would.

Crocus does very well in loose soils yet is usually a disappointment and the trouble is not in the climate. The bulbs carry poorly and during the long trip from Holland almost always heat to some degree. The losses are enough to make the dealer sick and even bulbs which seem good may have suffered somewhat.

Freesias simply luxuriate in light or sandy soils along the entire coast belt from Santa Rosa south. They are not quite hardy enough in the cooler mountain sections.

Hellebores are especially adapted to shady places in Northern California. They could hardly be better.

Ixia and Sparaxis do wonderfully well throughout California. They thrive with little care year after year. It is advisable to secure good named varieties of these.

Montbretias do so well that they run wild in most sections of California.

Ornithogalums thrive in any garden soil with little care; scillas are quite easy; and grape hyacinth will colonize readily.

It is not necessary to dwell at length on the best varieties of tulips, hyacinths, daffodils, etc. A list made out for Eastern or European gardens will apply as well here. Stay with the good medium priced standard sorts and you will make no mistakes except that in early single tulips it is better to take the sorts that are normally long stemmed.

Some Good and Bad Cases of Garden Design

—By Fletcher Steele, Massachusetts

[EDITORS' NOTE.—*These notes are in the nature of constructive criticisms by an expert garden designer, are the personal convictions of the author, and are used to illustrate the application of certain principles of garden design. No one garden yet made is altogether perfect. The controlling factors are often unknown to the critic who deals only with the actual result, and ofttimes unsurmountable difficulties compel a treatment far from the ideal in mind. The lessons here presented must be taken only on their face value and as they relate to an ideal.*]

I. A SIMPLE BACKYARD GARDEN

THERE is much both to admire and to criticise in this garden. Let me be guided first by what is admirable.

The best point is the comfortable, livable character of the place. It is evidently much used; the light bench is the only witness of leisure, but leisure is probably a minor pleasure here. More important are the general neatness and the signs of attention revealed by each plant. There is no horticultural show or meticulous maintenance of an expensive corps of gardeners. It shows much more the simple interest of a good housekeeper.

There is little to say about the design. Convenience must have dictated the location of the straight path dividing the lawn. Tradition or commonsense—the two frequently agree—led to making the narrow flower border following either side. Tradition alone explains the white paint on the old-fashioned grape trellis and picket fence. Interest in plants accounts for the different varieties, all well cared for. Refined taste and perhaps limited funds for gardening outlay are responsible for the simplicity.

One concludes that the guiding spirit of the place was once paying a visit and returned to find the white stone edging of the path, much to her surprise. Probably she almost had it taken out, but finally said nothing because it would hurt somebody's feelings; and besides, it served to accent important lines and kept the path neater han before.

She must have been in Europe, when they made the water lily pool. It is really very bad. It is well located—in the centre of one of the two garden lawn spaces. But its shape is inexcusable—the attempt of a "practical" person to be artistic, in all probability. The path around it accentuates the shape and makes it worse. Fancy the lady's difficulty trying to display the expected appreciation!

She need not have left it as we see it, however. If the whole thing could not be made over, the path around it might have been turned back to turf and the pool rim painted dark gray or brown. Around it she might have planted low growing iris and creeping plants that would soon cover the stiff ugly rim.

There are too many plants in the water. The whole surface of a pool should never be covered with leaves and lily pads. The interest in the individual plants is diminished and the mirror effect of the water surface is lost. Three quarters of all this water growth should be removed.

If she asked me for more advice, I would suggest that she make the flower borders a foot wider, and add twice as many tall perennials, and cover the ground thickly between them with low growing things. I would tell her to make a narrow flower bed along the picket fence, or else plant a few more vines like *Akebia quinata* or *Clematis paniculata* to about half cover it.

Other than that I would congratulate her on the charming simplicity of the place and recommend that she should make all further "improvements" herself.

II. A GARDEN OF UNCERTAINTY

THE garden shown on next page is bad because it is so indefinite in design. It is neither formal nor informal, land nor water, turf nor flower. It looks as though it might be the result of the work of many different men, each of whom was allowed to work his own sweet will on the place during his short stay.

One can imagine that its history ran about as follows: Originally it was a tree-covered swale, probably swampy. One man cut the trees; the birches grew up themselves. The next man perhaps filled in the swamp, leaving the water line about as it was—a good thing to do usually in informal work. But it was not left whole heartedly informal. Turf was planted. If it had been left there, there would have

I.—A comfortable backyard garden that has evidence of being used by a real plant lover

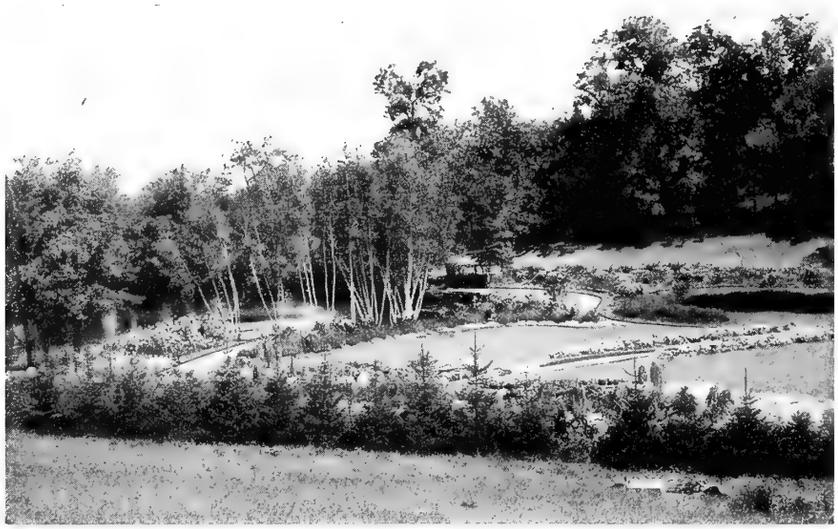
been at least an inoffensive, and even attractive lawn.

But no! Paths were laid out to wiggle hither and yon, cutting the lawns into ugly beds. Then trifling little flower beds were cut out of the turf to follow the paths, accentuating the bad geometrical lines.

Probably the designer considered that his beds were naturalistic. But even a superficial observation of Nature's gardening will show that the lines on the edge of the wood, swamp or thicket do not follow mathematical curves with sharp edges. Nature frequently follows a definite curve in a broad way. But the edges of such curves are constantly recessed and projected like the capes and bays of the ocean shore. In the picture the edges are uncompromising and sharp. What is worse, they are edged with long lines of conspicuous plants. Even the relief of irregularity in planting is denied.

There are good ways and bad ways of laying out beds and paths in natural design. The best way is to lay out the beds so that they follow, or appear to follow along bank or stream as nature would plant them. Paths laid out parallel with such beds will then seem to have taken advantage of existing growth. As the beds will not be sharply edged, but will have bays and projections, the path should follow the general curve of the bed, however, not each minor irregularity.

A clever designer can go at this problem from the wrong end and get the same effect.



II.—This garden shows ambitions but does not hold together

In other words, he can make his paths along curves and in positions where they are most convenient and comely. Then he can design his beds to make the paths appear to follow the planting as they should. But this is not an easy thing to do well, and the tyro should begin the other way. It may be asserted with assurance that paths which wiggle about aimlessly, accompanied by planting which follows aimlessly, obviously controlled by, not controlling the line of the paths, will always produce an artificial and with rare exceptions, an ugly effect.

III. Artificial Stream Beds and Bank Treatment

HERE are two pictures showing widely different naturalistic treatment of small waterways. In the first one the planting is very well done, and the picture up the stream reflecting sky and shadow and exquisite foliage pattern is exceedingly interesting. Natural vegetation has been preserved and supplemented. From the sharp slope into the water, uncovered with vegetation, together with the quiet surface, we may judge that it is near the mouth of a little stream on tide water or else a sluggish stream running through stiff clay.

The second example is all frankly artificial. Large boulders have been brought in to cover and disguise the end of a conduit, and a stream bed has been made of smaller stones to carry off the water. It is not an easy thing to group boulders to get a naturalistic effect. Part of this work is very well done. From the mouth of the conduit down stream the work might well be the result of natural forces so far as the general appearance goes. On top of the conduit, however, is just a pile of rocks, looking as if they had been put there to get them out of the way. The difference in effect is plainly seen when first one part of the picture is covered and then the other.

What is the reason that one part of the picture is good and the other bad?

Under natural conditions one rarely sees a large boulder all above the surface of the ground. Occasionally a single stone is so found, but the other stones around it will be more or less buried, you may be sure. In this place all the stones below the conduit seem to be half buried, at least, while those over the opening all rest on the surface of the ground. This makes it obvious that

III a.—A well treated water effect on natural lines

III b.—Another water treatment that is not entirely successful

these stones were simply dragged into position and left. If several loads of soil should be filled in over and between the rocks they would immediately look much more natural.

As a landscape composition this large rockery would be very much improved if several good sized shrubs and one or more trees were to be planted here and there. Everything planted should be varieties which naturally grow in the neighborhood under similar conditions. Near the waterway I would put wild alder and higher up between the rocks the wild barberry and a couple of red cedars and junipers.

Various methods of keeping garden produce. Tomato vines may be hung upside down under cover, the fruit ripening gradually; cabbages may be kept in the cellar suspended from the rafters, several heads being tied together. These five types of "containers" are used for keeping vegetables and fruit and may be obtained at small cost from any grocery store

Saving the Season's Produce—By F. F. Rockwell, Connecticut

GETTING A CROP WELL GROWN IS ONLY HALF THE STORY—SAVING AND KEEPING IS JUST AS IMPORTANT AS GETTING A GOOD YIELD

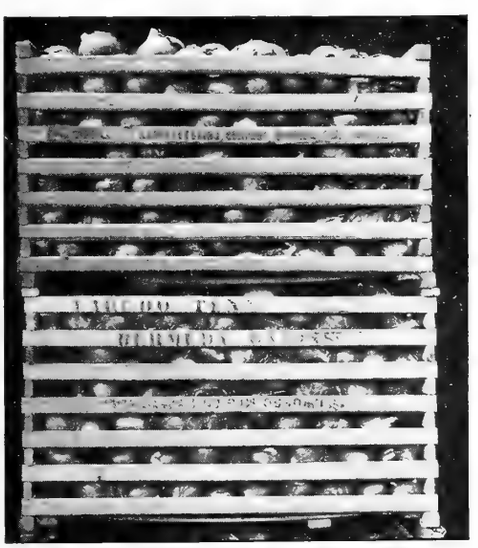
IN HARVESTING, as in planting, the various crops may be considered in two general groups—the hardy and the tender. The small grower may not be able to have storage facilities especially designed to accommodate special crops, but he can provide suitable quarters by the use of a little ingenuity. A good dry, cool, tight cellar is of the greatest value for storage purposes, but even where such is not available, substitutes may be found.

Squashes, pumpkins, melons and *cucumbers* should be gathered before danger of first hard frost. Usually a light "touch" that blackens the foliage will come first as a reminder, but if it is getting late in the season, do not wait for this warning. The muskmelons and cucumbers may be cut where the stem joins the vine, but the squashes, pumpkins and watermelons should be cut with an inch or so of vine on each side of the stem, which should never be broken off.

Brush the soil from the under side, and turn them bottom side up to dry thoroughly. Handle them always as if they were eggs. Even though the rind may seem quite hard it bruises very easily, and a bruise that cannot be seen at all when it is made will develop later into a decayed spot that will spread rapidly over the whole fruit and possibly spoil those next to it. The drier the air the better (an ideal place being in a room with a furnace or stove), but the temperature should be kept as near forty degrees as possible. Don't discard the small immature squashes gathered: these are the best to keep, and often may be had in good condition for the table after the larger ones have been used. Melons and cucumbers may be stored in straw or leaves in a dark cool place, and used up as they ripen.

Beans. All the pole beans and most of the bush beans are good for winter use, gathered as soon as the pods dry, even if there is no danger of frost. If the work has to be done in a hurry, the plants may be pulled and hung up under cover where they will dry.

Tomatoes. The first hard frost usually doubles the price of tomatoes. All the fruits on the vines should be gathered when the first hard frost threatens. The more mature will ripen up gradually for some time to come, and the green ones are usually in good demand for pickling. A few plants may be taken up and hung upside down in a shed or dry cellar, letting the fruit ripen on the vines, which it will continue to do for a surprisingly long time. Some of the best of the green fruits placed in clean straw in a dry cold part of the cellar or storehouse will often ripen for Thanksgiving and even later.



Slatted crates are ideal for storing onions and anything else that needs a dry atmosphere. They may be stacked one on top of another

Okra. The plants may be cut and the pods allowed to dry, and used for flavoring.

Sweet potatoes should be dug as soon as the tops are killed, dried thoroughly, and then stored in open crates in the attic near a chimney, or in some similar spot where they can be kept as dry and as warm as possible.

Eggplants and *peppers*, though usually not injured by the first light frosts that blacken the leaves, should be gathered before danger of frosts that would blister the fruits, and kept in the same way as suggested for melons and cucumbers.

Sweet corn. When frost threatens, cut stalks and all, just as for field corn. It may be shocked in the same way, and the ears will remain in good condition much longer than if pulled from the stalks.

In picking the tree fruits too much care cannot be taken to prevent the slightest bruising. A bruise so slight as to be invisible at the time will develop into a decayed spot later. Only the soundest and greenest should be stored away. Barrels, or cracker boxes, which hold practically a bushel each, make good containers. The latter for home use are more convenient. Pears should be stored in a dark, cool, well ventilated place. The rapidity with which they ripen will depend to a large extent upon the temperature. For long keeping it should be kept as near thirty-two as possible.

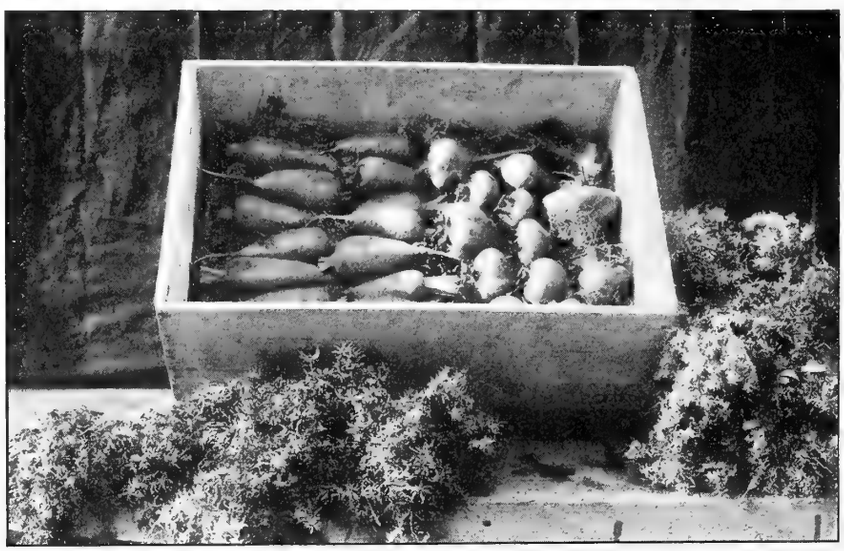
While a number of the late crops are handled in much the same way, three of the most important of them, potatoes, onions, and celery, require individual methods of

treatment. Potatoes for storing should not be dug until they are thoroughly matured as indicated by both the firmness of the skin and the cooking qualities. Dead vines are not a sure guide, as they may dry up prematurely from drouth, blight or frost. In cases where it is due to blight the tubers in the soil will begin to rot, and should be left until all that are going to spoil have done so. Otherwise they will rot after digging. The tubers should be left in the sun long enough to get thoroughly dried off, but not to sun-burn, as this spoils the table quality.

Onions. Success in keeping onions will depend very largely upon the care given in harvesting. After the tops dry down they should be pulled and laid in rows, and turned every day until they are thoroughly dried. Then they should be brought under cover—cutting off the tops or not, as conditions permit—where the air may circulate freely about them in all directions. Spread them out thin on the floor or pack them in slatted bushel crates. The white varieties must be cured under cover or they will turn green, and if they get a ghost of a chance begin to sprout again immediately. No onions, after the tops die, should be left in the ground. Before hard freezing weather they should be sorted over again and the soundest and driest stored for long keeping, the others being put aside for more immediate use.

Celery. Such celery as is wanted for early use is blanched in the field by drawing the earth up to the stalks in two or three successive hoeings or by the use of boards. The stalks should be blanched clear up to the foliage. Drain tile may be used for blanching small quantities for the home table. That part of the crop wanted for winter and spring use should have the soil worked in about the stalks sufficiently to hold them in an upright position. Upon the approach of hard frosts, about November first, part of it may be "trenched," or blanched in a long narrow ditch, dug in some well drained convenient position. It should be about a foot wide and deep enough to take the celery plants, standing on end as they grew, with the tips of the foliage about level with the soil surface. It should be taken up, roots and all, and packed in close in the trench. As hard freezing weather approaches the tops should be covered with meadow hay and boards to prevent freezing. This will keep in good condition until the advent of real winter weather. That wanted for winter and early spring use should be taken up, before hard frosts, and stored in long narrow boxes about a foot wide and deep enough to take the plants upright, packed in snugly together. As in trenching, the roots should be left on, and a couple of inches of moist sand should be put in the bottom of each box. These boxes may then be packed in a cold dark cellar, and the stalks will blanch out by the time they are needed. Boxes of the required shape and size may be readily made from plain pine boards, with a row of small holes bored in the ends of each to serve as handles. Celery should be handled or stored only when it is perfectly dry.

Beets, *carrots*, and *turnips* and *radishes* will not be injured by the first light frosts. *Parsnips* and *salsify* (or oyster plant) may be left in the ground all winter, without injury, but of course the bulk of these crops should be taken up, as once the ground freezes, it is next to impossible to get the roots out until spring. All these root crops should be gathered and "topped," being careful not to cut too close, causing the roots to bleed, and stored temporarily in piles so that they may be covered at night if there is danger of freezing. To keep well for a long period they should not only be stored in a dark cold place, where the temperature may be kept well down toward the freezing point, but should be packed in sand or moss. The only objection to the former material is its great weight. Sphagnum or swamp moss may be gathered free in most places, or a few bushels bought from a local florist. It is clean, and light, and stays moist without being wet, for a long time, making an ideal packing for the root crops.



Pack root crops in boxes between layers of sphagnum or swamp moss, which retains moisture and is also light in weight

Cabbage. A small quantity may be kept in a storeroom if it is cool and dark. A good way is to tie several heads together, first removing the outside leaves, by the roots and suspend from a nail. Where any amount is to be saved, however, it is usually "pitted." A common method is to simply dig a trench wide enough to take two heads side by side, and deep enough so that when another head is placed on top, the roots will come about level with the surface of the soil. Cabbages should not be trenched or pitted until cold weather, and as hard freezing weather sets in should be gradually covered up with meadow hay, corn stalks or other mulching sufficiently deep to prevent their freezing hard. Those to be kept over winter, through very hard freezing, should have a layer of earth over the mulch, and a second layer of mulch over this. The trench may be lined with hay, straw, or boards to make more certain of keeping the contents dry and clean. *Brussels sprouts* and *kale* may be left where they grow, as they are perfectly hardy.

Lettuce will stand more or less cold weather, and may be had for several weeks later than usual by simply covering it with meadow hay to protect it from the first frosts, after which we frequently have two or three weeks of good growing weather. Small plants, which were started in August or September, may be transplanted to the coldframes in October, where by the use of double sash, they may be had through most of the winter, even in quite severe climates.

Parsley should be cut back severely, a few roots taken up and put in pots or a small box, with drainage holes in the bottom, and after being allowed to root for a week or so in a cool shaded place, may be kept throughout the winter in any light place where the temperature does not go below forty at night.

SUBSTITUTES FOR CELLARS

If a furnace is used, a double partition should separate it from the part of the cellar used for storing the vegetables. Where the cellar is only one large room such a partition may be cheaply and quickly put up with "wallboard," which comes in large sheets and is very easy to use. Where no cellar is available a room on the north side of the house, which may be kept dark and cool but safe from freezing on cold nights, may be utilized to advantage. Root crops may be stored in a pit, like cabbage.

All fruits and vegetables should be clean, dry and sound when stored, and the storage room and boxes and barrels kept perfectly clean. Cellars should be whitewashed every fall. Ventilation is also very important. Until freezing weather ventilation should be given on cold nights, and shut off during warm days, the aim being to keep the temperature as constant as possible—about 35 degrees F. being right for most vegetables. Where any amount of things are to be stored it will pay well to get a few each of the following: sugar or flour barrels; clean cracker boxes; slatted crates; slat vegetable barrels; and peach baskets, which are handy for small amounts.

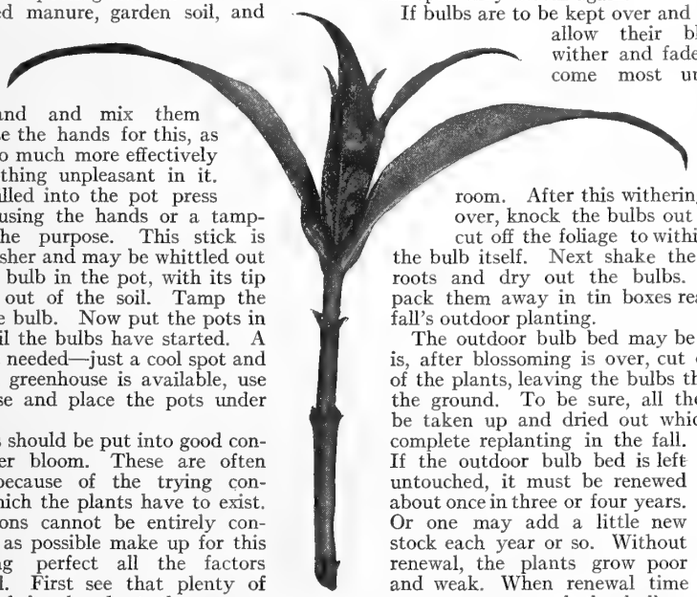
GARDENING FOR YOUNG FOLKS

CONDUCTED BY ELLEN EDDY SHAW

Indoor Planting

AFTER the bulb-potting rush is over there are still many things to do with the plants if one wishes to have bloom for later in the winter.

Calla lily bulbs that were ordered in September should be potted in a 5- or 6-inch pot according to the size of the bulb. Wet the pot, place a curved piece of pot over the hole, fill in with a good potting soil, which, of course, should have been mixed before the actual work of potting started. Have a supply of rotted manure, garden soil, and sand. Take two parts each of garden soil and manure and one of sand and mix them thoroughly. Use the hands for this, as it can be done so much more effectively and there is nothing unpleasant in it. As the soil is filled into the pot press it firmly down, using the hands or a tamping stick for the purpose. This stick is like a potato masher and may be whittled out of wood. Place bulb in the pot, with its tip just protruding out of the soil. Tamp the soil all about the bulb. Now put the pots in a cool place until the bulbs have started. A dark place is not needed—just a cool spot and half light. If a greenhouse is available, use the coolest house and place the pots under the bench.



A pentstemon cutting prepared for planting

Window boxes should be put into good condition for winter bloom. These are often unsatisfactory because of the trying conditions under which the plants have to exist. Exterior conditions cannot be entirely controlled, so as far as possible make up for this lack by making perfect all the factors you can control. First see that plenty of drainage material is placed at the bottom of the box, in this way elevating the soil itself above the place where free water may stand. Use good light soil, taking an ordinary garden soil and working into it equal parts of leafmold and rotted manure. Those who have been wise and taken up from the outdoor garden some of their plants can use them.

Fuchsia, heliotrope, geranium, petunia, and marguerite may be planted in the boxes. Petunias used alone are most satisfactory, blooming and reblooming all the winter. If lobelia and sweet alyssum or candytuft have been used as border plants in the garden, they may be added as low growing plants to the window box. Cut them back, leaving about four inches of top growth, to induce a new vigorous growth. They may be used, also, in hanging baskets after being back cut. Buy a small wire-framed hanging basket, line it with sphagnum moss and place the plant in the moss.

If new plants are to be bought for the window, choose those which are best suited to the conditions of light under which the plants must live. In this way again conditions are partly controlled. Almost any plant may be used in full sunshine; but if the box has to be in a dark place, such as a northern exposure, then care must be used in selecting plants which will live where there is little light. A box filled with ferns, such as the Boston or holly fern, will do well. Begonias, aspidistra, cocoa, or kentia palms, may be chosen. Try having one of the boxes filled with little evergreens, arborvitæ, or junipers. English ivy, as a trailer, stands classroom conditions better than many others. Of course, tradescantia is always a standby for this purpose.

If a single plant is to be chosen for the school room or the living room, choose the aspidistra, which will withstand trying indoor conditions. A Norfolk pine is also attractive; but this plant needs a cool room with a temperature not higher than 60 degrees, and preferably lower.

Soon the children will ask whether or not it is possible to use bulbs a second season. Throw away the Chinese lily bulbs. Most of the bulbs grown in water or in pots of soil are so forced that no energy remains for a second season, and no storage of force is possible. But the hyacinth, tulip, and narcissus family, with the exception of the Chinese lily and the paper white narcissus, may be planted outdoors in the fall. Left in the ground they slowly recover from the season of forcing and by a second year in the open may bloom again.

If bulbs are to be kept over and used again, allow their blossoms to wither and fade. They become most unsightly, so bundle them off, pots and all, to the cellar or a store room. After this withering process is over, knock the bulbs out of the pots, cut off the foliage to within an inch of the bulb itself. Next shake the soil off the roots and dry out the bulbs. When dry, pack them away in tin boxes ready for next fall's outdoor planting.

The outdoor bulb bed may be left. That is, after blossoming is over, cut off the tops of the plants, leaving the bulbs themselves in the ground. To be sure, all the bulbs may be taken up and dried out which means a complete replanting in the fall. If the outdoor bulb bed is left untouched, it must be renewed about once in three or four years. Or one may add a little new stock each year or so. Without renewal, the plants grow poor and weak. When renewal time comes and the bulbs are unearthed, notice the new young bulbs clinging to the parent stock. This is another nature lesson.

Methods of Plant Propagation

THERE are various ways to start plants, which can be tried in schools and homes even where there are no special facilities, like a greenhouse, for the work. Most boys and girls have raised plants from seeds or bulbs; why not go on and try, for the fun of it, a number of different ways to raise plants? Plants may be started from seed, pips, runners, roots, leaf cuttings and stem cuttings.

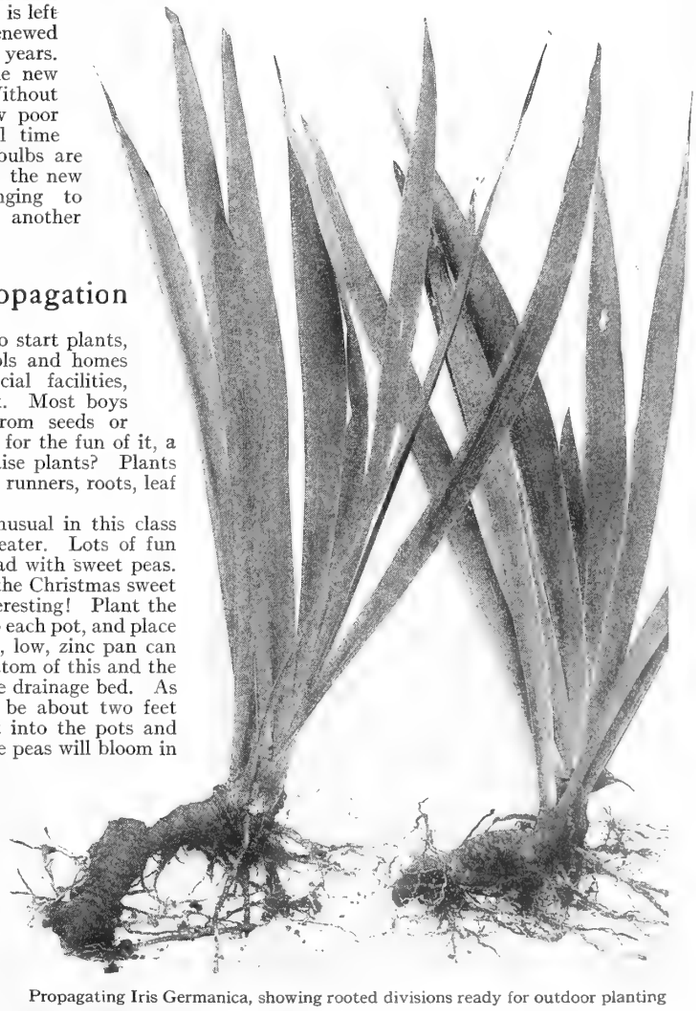
Seeds. Choose something unusual in this class so that the interest will be greater. Lots of fun and excellent results may be had with sweet peas. Use an indoor variety, such as the Christmas sweet pea. Right off this sounds interesting! Plant the peas in 3-inch pots, four seeds to each pot, and place in a sunny window. If an old, low, zinc pan can be had, place pebbles in the bottom of this and the pots may be set on this pebble drainage bed. As these sweet peas will grow to be about two feet high, small sticks must be put into the pots and the peas trained on them. The peas will bloom in February and if the blossoms are cut they will bloom continuously until June.

Another interesting seed to use is that of lobelia, Blue King being an excellent variety to try out. Plant these seeds in low boxes or flats, although a 5-inch pan will do equally well. Fill the pan with soil, firming it down well; then sprinkle the lobelia seed over the surface, putting on a fine coating of soil just to cover the seed. A piece of window glass, placed over the pan, will give greenhouse temperature for the start. Keep the glass tilted up a little from the pot, so that air may enter. Be careful in watering, for whenever fine seed is used careless watering washes away the seed, leaving it exposed, or flooding it to one place in the pot.

Pips. It is possible during November to buy lily-of-the-valley pips from the seedsmen. When the pips are taken out of their wrappings, you will see the pinkish tip and the long roots. The roots must be cut back, so gather them into your hand and cut them back about one third. Pot up the pips, putting about six to a 5-inch pan, leaving all of the tip out of the soil.

These pans of pips should now be plunged in sand and covered with canvas, just to act as a screen from the light. Keep the sand well moistened. If the heat can come from the bottom, as happens in a greenhouse, so much the better. If one is raising these in a school room, place them in as warm a place as can be found. Leave the pans covered until the buds are ready to burst open. Then take off the covers, remove the pots from the sand, and place them in strong sunlight.

Runners. Some plants are started from runners. The Boston fern is the best of all plants to use for illustrating the method of propagation by runners. Take a large plant and knock it out of the pot; see how all the smaller ferns started as off shoots from the parent fern. You will be able to see the



Propagating Iris Germanica, showing rooted divisions ready for outdoor planting

Propagating tuberous begonias by division, showing the divisions ready for potting up

runner holding the young fern to its parents. These runners are put off from the parent plant and soon put forth roots, making a new plant, which should be cut off and potted up. The large parent plant may be divided also. As you hold it in your hand you will see, perhaps, where it naturally makes two or three ferns. Take a sharp knife and cut it into these parts. You will not injure the fern at all unless you make ragged cuts. The soil for these new ferns, which lie on the bench before you, should be a rich one. Mix together two parts of garden soil, two parts of leaf-mold, one part of rotted manure and one part of sand. This will make a first-class soil for ferns. By division several new plants are obtained from one large plant.

Leaf Cuttings. Perhaps the most fascinating of all the ways to propagate plants is that of starting from leaf cuttings. For this, use the leaves of Rex begonia. Choose a large leaf without any defects upon it, and turn it upside down on a clean board. Note the large veins; wherever two such veins intersect make a cut. Use a sharp knife and cut right through the leaf. Pick up the leaf and lay it, under surface down, on a moist sand bed. Lay some pebbles here and there on the leaf so that it will be held down close to the moist sand. After a lapse of two or three weeks roots will thrust their way down into the sand from each leaf cut and little leaves will appear from the upper surface. When the leaves of these new plants are in size about an inch, pinch out the little plant from the mother leaf and pot it up. Use a rather sandy soil for this, say one part garden soil, one part rotted manure and two parts sand.

Stem Cuttings. Still another method of propagation is that of stem cuttings. For this work use old geranium plants, heliotrope, verbena, fuchsia, Marguerite, pentstemon and cuphea.

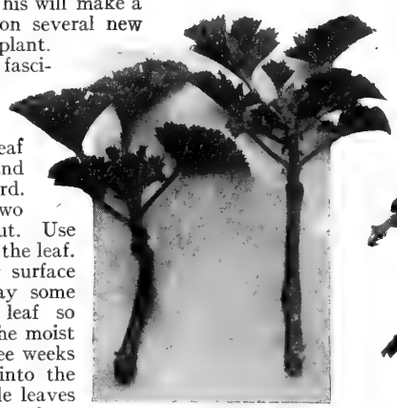
Geranium cuttings should be made about four inches long. Make a good clean cut between two circles or nodes, either slantwise of the stem or straight across it. Pick off all the leaves except two or three terminal ones. Pinch out the terminal bud if it shows a bit of color. Cuttings of the other plants here mentioned should be only about two inches in length. All cuttings may be put into sand beds or started in pots in which is a very sandy soil, one part garden soil to three of sand. These cuttings root in from seven to ten days. For the first few days, screen them from the sun's rays by a newspaper covering. After they are rooted pot them up in a soil made up of one part garden soil to one of rotted manure and one of sand.

In one of the pictures, note how the geranium cuttings are first placed all about the edge of the pot, and so on in. If two or three small cuttings, like those of coleus, are potted up in 3-inch pots, place them also about the edge of the pot, the centre space being left as room for the plant as it develops. Watch the coleus, for lice may appear on the undersides of the leaves or at the junctions of petiole and stem. As soon as the lice appear get rid of them.

Roots. Another satisfactory plant to try is astilbe (the florists' spirea); buy the variety called Gladstone. Astilbes are roots and come in clumps, which may be broken or cut apart. At the same time trim back the rootlets which straggle from the root. These roots will probably require 8-inch pots, or larger. The root system gets large and quite fills the pot. After potting in a manner similar to that suggested for callas, place in a cold-frame or a cold room for a few weeks. The roots must be well started and the tip, too, before bringing into the warmth. These spireas are very satisfactory, indeed. They are not used often in school work, but there is no reason why they should not be, because in the first place they require no care in the potting; and secondly, they bloom freely and make a fine showing. They could be raised and used as decorations for the assembly halls.

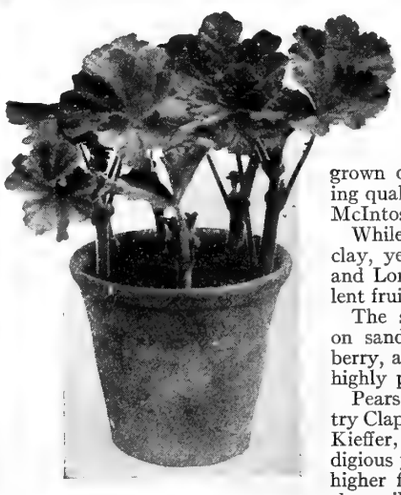
At the same time illustrate further by dividing the roots of clumps of iris in the outdoor garden. Dig up a plant of Iris germanica and show the need for division. Cut apart the clumps, using a spade if it is impossible to break them apart with the hands. After division, these should be replanted.

It would be excellent to follow on the work with a division of aspidistra. To be sure spring is the better time to separate these plants, and unless it is to be part of a lesson I would not do this work until the spring time. This will represent a division of a rhizome. A rhizome is an underground stem giving forth roots or leaves at certain points. This underground stem, as it is called, may be on or under the ground, but is prostrate. The rhizomes are broken apart and repotted; each one gives a new plant.



Pelargonium cuttings ready for potting

An old plant of zonal pelargonium before cuttings are made



Plant cuttings about edge of pot to gain space

Plants of aspidistra ready for division. The rhizomes may be broken apart

Sandy Soil Possibilities

THESE are some interesting problems connected with sandy soil, and there is yet much to be learned about its best management and its possibilities for greater development.

The soil about most seaboard cities is generally of a sandy type, and market gardening is adopted because of close proximity to markets, and also because sandy soils will produce earlier and quicker crops.

The best vegetables are those that are rapidly grown, as when so grown they are more succulent, tender, and crisp. Sandy soil is more porous as the particles or grains are coarser; therefore it becomes warm earlier in the spring, seeds germinate more quickly, and plants grow faster. The heavy clay or loam soils retain more water, and longer; and therefore carry a lower temperature. With sandy soil more fertilizers have to be used, both in the form of stable manure and chemicals, the former supplying humus, which retains and gives out moisture over a longer period, while the latter balances the plant food, in which stable manures are more or less deficient.

Tree fruits are not so well suited to sandy soil as to the clay or loam. Trees, unlike vegetables, should make a slow growth, that the wood and fruit buds may thoroughly ripen and mature, to withstand low winter temperatures. Highly fertilized sandy soil stimulates a too luxuriant growth of wood in fruit trees.

There are a few varieties of tree fruits that do very well on a sandy soil that is naturally fertile. The peach leads, and the most extensive orchards are growing on such soil and on sandy loam. Try the varieties Carman and Champion.

The apricot is also well adapted to sandy soil; Harris and Moor Park are excellent.

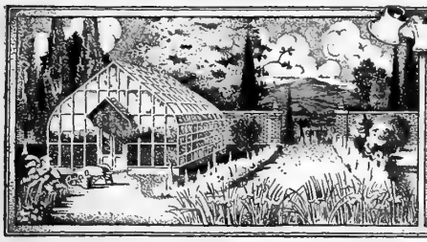
For early maturity of tree, and for early markets, the Red Astrachan, Red June and Yellow Transparent apples will give satisfactory results. Winter varieties grown on sandy soil have poor keeping quality, and are deficient in flavor. McIntosh might also be grown.

While the plum does better in a clay, yet the Abundance, Red June, and Lombard varieties produce excellent fruit when grown on a sandy soil.

The small fruits universally do well on sandy soil. The strawberry, raspberry, and blackberry, thrive and are highly productive.

Pears require the heavier type of soil; try Clapp's Favorite and Bartlett. The Kieffer, however, produces most prodigious yields on sandy land and has a higher flavor than when grown upon clay soil.

New York. GEORGE T. POWELL.



ODDS AND ENDS
FROM EVERYWHERE

Fall Planted Sweet Peas in the South

I HAVE often read that practical gardeners do not advise planting sweet peas twice in succession in the same place, but my experience teaches me that it makes no difference. For the past four years I have planted my seeds in the same place, with gratifying results. If the soil is properly prepared and the seeds planted in the fall, the results will be just as satisfactory as if the position were changed every year.

My method is to dig a trench about twenty inches deep, fill in with manure, earth, bone meal and a little lime to within about five inches of the surface; then sow the seeds in double rows about six inches apart, two seeds in a place six inches apart. Of course, the seeds must be of the best quality; cheap seeds are not worth planting. After dropping the seeds fill in until the ground is level. The settling of the soil will leave a depression along the row. In dry weather keep the roots well supplied with water, but do not wet the plants. Once a week give a liberal supply of liquid manure, and occasionally a little nitrate of soda.

The first of the four years I planted my seeds on December 21; the first blooms appeared May 16, and for two months afterward I had an abundance of flowers. The second year I planted on November 27. The plants commenced to bloom May 9, and continued for eleven weeks, giving large blooms, two to four on long stems. The third year, because of a wet fall, I did not plant until January 28. The result was not satisfactory. The fourth year seed was planted on November 17; it commenced coming up about the middle of February, and bloomed on May 12. In spite of the fact that the past summer was the hottest and dryest I ever experienced, I had an abundance of fine blooms, with long stems, until August 9, and for two weeks later there were many blooms, but the stems were too short for cutting.

I always make a second planting in January, February or early in March, according to the condition of the soil, but have never had spring-planted seed bloom as well as that planted in the fall. Last spring I made my second planting the 17th of February. The result was a complete failure, although the planting was on new ground.

Nashville, Tenn. J. G. Cisco.

One Amateur's Views of "Odds and Ends"

I HAVE often thought that if we amateur garden "fussers" would only swap stories of our successes and failures we might possibly get more satisfactory results, as professional ideas are often beyond us. We all know that, if we have sweet peas or pansies growing, the more we pick the flowers the more we will have to pick, and the longer they last. This same rule applies to other gardening efforts; we should not let things get the best of us and go to weeds.

I have known persons who would (in anticipation of great results) pay a fancy price for special shrubs or plants and then, through ignorance or indifference in planting, would unwittingly kill them and then blame the nurseryman for having sold poor stock. My advice to such amateurs is to put less into the cost of the plant and more into the hole in the ground. By this I suggest the digging out to a good depth the gravel and clay and substituting a rich, sweet soil.

Do not be overkind by burying the roots in manure, as this will only burn them up. In planting spread the roots naturally and then stamp the earth well about them after watering thoroughly, and then prune them back sufficiently.

By planting tulip bulbs in the fall we can have as early flowers as are necessary. These bulbs can be planted deep enough so as to leave them in the ground undisturbed for at least three years. Lily-of-the-valley, planted in the autumn, will increase from year to year until a nice bed is made. The iris is one of the best hardy flowers, and there are many handsome varieties in both the German and Japanese fleur-de-lis. The lemon lily is showy and easily grown. Peonies, both single and double, should not be overlooked.

Roses are most satisfactory planted in fall and partially protected the first year. I warn you not to foster a sucker grown from a rose root after the budded part has died, and then wonder why so healthy a looking plant does not flower. A sucker starts from the ground or below the knot where the rose bush was budded; watch for it and cut it out. Prune rose bushes every spring to within a foot of the ground.

Delphinium or larkspur deserves a place in the garden, and after its first bloom, cut the plant back to about ten inches and you will get fall flowers also. The hardy phlox is exceptionally beautiful and should be in every garden, but be careful when planting so that conflicting colors will not spoil the effect. At the end of three years the roots become knotty and the flowers naturally dwindle; then in spring or fall take up the plants, break off the fresher shoots for new plants, and throw away the old roots.

The hardy double yellow sunflower which grows about four feet high, is a very satisfactory plant for late bloom. The old fashioned hollyhock, planted along a fence or bare wall, is always picturesque.

As for shrubs I would suggest, for the beginner, forsythia, magnolia, weigela, lilac, spirea, flowering almond, golden syringa and deutzia; and for fall flowering there is nothing nicer than hydrangea. The only vines I will name are the *Clematis paniculata* (which should be cut back to the ground every fall), the Crimson Rambler rose, and the Japanese honeysuckle.

I hope to read in this department opinions of other amateurs, and criticisms, too.

Rochester, N. Y. W. G. W.

Keeping Rose Plants over Winter

IN WINTERING roses outdoors the first requisite is that the wood of the past season's growth be well ripened. This is a matter that is little understood and one that is given too little attention.

The natural ripening of plants grown outdoors varies greatly in different seasons and with different varieties. Tea roses are tender (at least to a great extent), because their natural habit of growth is continuous and they do not make provision for a period of rest during winter, growth continuing during fall and up to freezing weather. Naturally, under such conditions, the plant is filled with sap and is in no condition to stand severe weather. Any late growth is likely to be made during cloudy, damp weather and is not so hard as growth made during sunny weather. To this fact is due much of the disappointment with plants imported from Holland, the cloudy, moist climate producing a plant that is soft. In some cases this growth cannot be hardened and will shrivel when exposed to frost or a comparatively dry air. Plants kept in a frost-proof, dark root cellar will frequently take up moisture during the winter, even though they make no growth during that time; such plants have a fine, plump appearance when taken out, but will often shrivel when exposed.

Roses delight in a moist soil and for the best results should not be at all dry at any time during summer; but if they are in a situation where water can be withheld as fall weather comes on, they will ripen much better and be in condition to withstand severe weather, often without protection, in the coldest climate.

My method of wintering roses outdoors is designed for the purpose of having them in proper condition for shipment at planting time in spring. In some cases, and with specially tender varieties, this method may be used to advantage by amateur growers, though as a rule I do not advocate disturbing plants that do not have to be removed. Do not get the idea that our climate here in Virginia is particularly mild; we frequently have zero weather and sometimes considerably below.

The plants are taken up as early in the fall as may be safe. If they have begun to ripen and are dropping their foliage, it may be safe to take them up before frost; but if they are still growing and entirely green it will be necessary to wait till one or two frosts have at least partially stopped growth. As soon as taken up they are potted, in pots not necessarily as large as would be required if they were to make a growth in them, but large enough to get in the roots with a little soil. They are cut back, watered once and allowed to dry for about a week or ten days they are then placed in a coldframe, which is merely a pit some two feet deep, with a level, well-drained soil bottom. The pots are placed directly on the bottom, close together, all spaces between the pots being filled with some material that will hold moisture, sifted coal ashes being the best that I have found.

As cold weather comes on a covering of boards is put on rather loosely, with plenty of cracks for air and light. If weather becomes severe a covering of straw is placed over the boards, but this should be removed at once on the return of mild weather.

Virginia. W. R. Gray.

A Hanging Basket for Indoors

LAST year, when getting house plants ready for Winter, the hanging wire basket required a new lining of moss, and being in a large city, we did not know where to obtain any. Instead of moss, therefore, the basket was first lined with a handsome, heavy, felt wallpaper in dark green, a piece from a book of samples. This was sewed into place, the right side showing plainly through the wires. A hole was cut through the paper in the bottom and a greased cork fitted into the draining hole. Then enough plaster of paris was mixed with water to make a cream and a coat of it laid as lining over the inside of the basket. When dry we had a basket that would hold earth and plants as well or rather better than when lined with moss. For watering it we buried in the soil a wide mouthed bottle, the neck just hidden by the foliage. This we kept filled with water with two strips of cloth extending from the mouth of the bottle along the surface of the basket among the leaves. Thus the soil was never allowed to dry out.

New Jersey. A. H. B.

Quinces for the Home Garden

THERE is no reason why quinces will not do well in home gardens, the common idea to the contrary notwithstanding, if ordinary good care is given the trees. They require to be sprayed regularly with the same material as used on apple and peach trees. They thrive best in heavy clay that is moist all summer, but they will do well in almost any soil. I have seen quince trees that are producing crops every year in the light soil of hillsides where the ground gets very dry sometimes. Proper cultivation, feeding, pruning and spraying will make quinces thrive and bear in almost every garden, yet I doubt if more than a dozen commercial orchards of more than ten acres can be found in this country.

The varieties I have seen succeeding are Orange, Champion and Van Deman. Champion is the one most largely planted. Van Deman probably is the most attractive looking, and the best bearer. All three sorts are large, golden yellow, fine-textured. The trees begin to bear when two years old, and yield regularly under right treatment. Set them ten feet apart. In the South plant one tree. In Middle and Northern states plant two trees in

small gardens, four trees in gardens of a half acre, and about ten trees in gardens of an acre or larger.

Quince flavor is so penetrating and individual that it lends its own taste to other fruit when only a small proportion of quince is included. Quinces are highly scented and perfumed. For flavoring preserves, butters, canned fruit, jellies, pastries and many prepared dishes nothing else will take their place.

Pennsylvania. J. R. MATTERN.

Wood Ashes for Potash

IF THE European war should cause our large annual imports of potash to dwindle, many will look to wood ashes among other substances to replenish the potash supply. If they are carefully stored and not permitted to leach, wood ashes may be of considerable value applied as a top dressing to grass land and to pastures where they will encourage the growth of clover and better kinds of grasses which will then crowd out inferior kinds and weeds. Wood ashes may be also used for corn and roots. Because of their lime content they are not so good for potatoes.

Ashes indirectly increase the available nitrogen of the organic matter in the soil, and have been known to do excellent service (in Europe) on drained moorland.

Besides the potash, ashes contain other ingredients which are of value to plants; namely about 1 or 2 per cent. of phosphoric acid, a little magnesia, and a great deal of lime.

Ashes from hard woods (deciduous trees) are richer in both phosphorus and potash than those from pines and other soft woods (conifers). Ashes from oak, elm, maple, and hickory have more potash than those from pine. The ashes of twigs are worth more than the ashes of heart-wood taken from the middle of an old tree. In general, the smaller and younger the wood burned, the better the ashes. The ashes of coal do not contain enough potash to make them valuable in this connection.

Ordinary house ashes contain on the average about 8 or 9 per cent. of potash and 2 per cent. of phosphoric acid. Investigators have considered that there is enough potash and phosphoric acid in a bushel of ashes to make it worth 20 or 25 cents. Besides that, some 10 or 15 cents additional might be allowed for the "alkali power" of the ashes. This power is that which enables ashes to rot weeds and to ferment peat.—*Office of Information: U. S Dept. of Agriculture.*

A Hardier Barberry Hybrid

I FANCY I have in my garden a hybrid barberry of considerable worth, as it is most attractive in appearance, is strong and bushy in growth, and is absolutely hardy. The winter of 1912 was probably the coldest remembered in this part of the country, and although there was a great deal of snow, Thunberg's barberry was in every case greatly damaged. I found it necessary to cut out most of my specimen shrubs, and found it advisable to entirely cut down a hedge. The common barberry and my hybrid were entirely unharmed. This hybrid is a seedling from *Berberis Thunbergi* and resembles the common barberry in blossom and fruit; also somewhat in its growth, although it is thicker and more compact. The leaf is almost as small as that of the Japanese barberry, but of less substance. I won't say that it equals the Thunbergi in beauty, but it grows more rapidly and with great strength and is very beautiful in late autumn and winter, retaining its scarlet fruit even through January.

Wisconsin. WILLIAM P. GUNDRY.

[Berberis species hybridize very freely — too much so in fact, so that it is difficult to keep the species true from seed. It is quite possible that this is a hybrid between Thunbergi and vulgaris. Several instances of such crosses have been recorded where the two plants have been grown together. One of these has been named and is on the market as *B. Thunbergi*, var. *pluriflora*. It carries three to ten flowers in a short umbel-like raceme, the branches being much more gray than in Thunbergi. We advise you to continue growing your plants for a little while longer and endeavor to increase the stock, as you may have something which will prove to be a distinct acquisition to your region, which can be propagated by soft wood cuttings taken in early spring and put into heat, or by layers. But the layers will take two years. Of course, you cannot reproduce the hybrid from seed and get it true to type.—L. B.]

More Uses for Lime-sulphur Wash

I WAS much interested in reading the article on lime-sulphur wash in the November, 1913, issue of THE GARDEN MAGAZINE. I know of two more uses for it.

A friend of mine last spring found it a valuable remedy for "scratches" on his horses. This skin disease is most prevalent during the winter and spring when the roads are muddy. One horse had an aggravated case of it and the owner washed the sore parts once with the concentrated solution. He cured it. This is a simple remedy and cheap; and, unlike some of the remedies applied to such infections, such as salt water, which is very irritating for awhile, the animal does not mind the application of it in the least.

Nearly every summer new methods of treating poison ivy patients are published. The simplest remedy that I have seen applied is lime-sulphur wash. Several acquaintances of mine have used it and they received immediate relief. The itching was soon relieved and the inflammation disappeared in a short time.

Because of the caustic properties of the lime-sulphur wash it is not wise to make repeated applications at short intervals. One or two at intervals of a day have been found, by those who have used it, to be sufficient.

Pennsylvania. HAROLD CLARKE.

The Mistletoe Fig

FICUS LUTESCENS, or the mistletoe fig, as it has been appropriately called on account of the whole plant when in fruit (in which condition it can be had the year round,) much resembling a branch of mistletoe.

The plant in growth is of attractive appearance. The small fruit or figs are of the size of a large pea and are borne singly on short stems in the axil of each leaf. They are at first green, changing to a pale yellow, occasionally with a reddish hue.

The mistletoe fig (*Ficus lutescens*) is excellent for the window garden

The plant is a good subject for the window garden, succeeding well in the dry atmosphere of the house, and is not subject to insect pests. It was originally imported from Java, and was first offered here in the United States in the spring of 1904.

New Jersey. J. D. EISELE.

Coal Ashes and Their Uses

OF ALL unsightly and apparently useless residues, a pile of coal ashes is undoubtedly the worst. Most men consider one of the first duties of early spring to be the immediate carting away of the ashes from stoves and furnaces. Yet, as is nearly always true, there is no waste in nature's great cycle of reproduction; for even coal ashes have their uses. When properly understood and handled they are not only worth while but highly valuable.

In an unsifted condition, they may with advantage be put in a long low row against the sheltered, sunny fence of the chickenyard. The fowls will delight to dust in the finer parts, while the heavier portions will keep the dust from being blown away. The chickens obtain from the ashes a certain amount of wholesome grit; and, in bad weather, ashes will keep that part of the yard in which they are placed well drained.

But for the most important uses, the ashes should by all means be sifted. If they are lying dry under some shelter, they must, of course, be wetted, and then permitted to dry until they are mealy, before they can be properly handled. The best labor-saving sifter is one like that which is employed for sifting sand to be used in concrete work. A quarter-inch wire mesh — and the wire should be stout — is best for all purposes. With such a sifter, a winter's accumulation of ashes can be separated in a very short time.

Having separated the ashes, several important uses will be found for both the rough and the fine parts. First, the rough may be used in paths and on roads. Before long, the rougher portions will work down to a clean, firm, springy surface. Such paths are especially advantageous in the garden, for weeds will not readily spring in them; moreover, they dry off quickly, enabling one to get about more comfortably and quickly after a rain than would a dirt path.

Secondly, as a summer mulch for fruit trees, or for any growths which require such attention and to which coal ashes can conveniently be applied, this waste product is very valuable. For such work the large clinkers should be taken from the rougher portion already separated from the fine. Such coarse parts as would pass through an inch mesh can be used to great advantage. So employed ashes conserve moisture at the roots, at a time when moisture means life for the plant and money for its owner.

This same principle, we have found, may be applied in another way, and with excellent results. About a pyramid of coarse ashes, plant melons, cucumbers, tomatoes, or any plants requiring a great deal of water. The roots of the plants will pass under the ashes, and there will find cool soil, moisture, nourishment. In a very dry time the plants about such a heap may readily be relieved from the effects of drought by pouring water on the ashes. Thus the moisture is slowly and judiciously distributed to the roots of all the plants, no one planted receiving an undue amount.

The chief use of the fine sifted ashes is in conditioning the soil. They are admirable to render friable the tougher soils; but they cannot, like lime, sweeten sour land. Their virtue is in lightening the soil. Also, though not at all to be compared to wood ashes as a fertilizer, they undoubtedly have a fertilizing effect of a certain mild and wholesome degree. Soil to which sifted coal ashes have been added will grow plants of darker, richer foliage, and of larger fruit than soil not so treated. But the ashes must be thoroughly incorporated with the soil.

For experiment a few years ago, a soil was prepared, consisting of the following ingredients: $\frac{1}{8}$ stable manure, $\frac{1}{8}$ woods earth, $\frac{1}{4}$ garden soil, $\frac{1}{2}$ sifted coal ashes. In this soil, potatoes were planted; and the yield, in size, appearance, and flavor, far surpassed the crop grown in the adjacent garden soil.

The man who tries to make everything on his place count for something, and who never loses an opportunity to improve his garden walks and his garden soil, will never throw away coal ashes. He will sift them and use them to all the advantage that they are capable of affording.

Pennsylvania. ARCHIBALD RUTLEDGE.

Winter Vegetables in Alabama

WHEN the time came last fall for me to put in my hardy vegetables I decided that the smaller the space used for them the better, so that I might have an opportunity to plow up my garden plot, which is 40 x 180 ft., and allow it to be benefited through the winter months by the heavy dressing of stable manure which we put on it before the frosts set in.

Before this was done I reserved a 20-foot space across the west end of the garden. Here I made three beds, each 5 x 16 ft. They were then fertilized and each was boarded up, on three sides, to the height of eight inches. On the north side two 8-inch boards were used, making a 16-inch wall, which was a protection from the north winds and which made the plants mature earlier. On the first of November the three beds were planted. One bed was covered with cheese-cloth and across half of it I sowed one ten-cent package of Iceberg lettuce, sowing it broadcast. The bed was kept well watered and was uncovered on sunny days and, as the plants grew large enough, they were transplanted to the other half of the bed in check rows, 8 x 8 in. I had splendid results from this method and we were supplied with lettuce for many weeks during the cold weather.

In the other two beds were sown respectively one ounce of Eclipse beet seed and two packages of Scarlet Horn carrot seed. These seeds were sown across the beds in drills ten inches apart and with the narrowness of the bed, five feet. Cultivation was made an easy matter, thus giving us a fine, large yield of vegetables from a comparatively small piece of ground. We also found that the beets were sweeter in flavor than any that we had grown before.

Alabama. EVELYN VOSE PECK.

Last Duties of Fall

THE last fall month is a busy one for transplanting perennials, dividing and transplanting shrubs. Have your beds worked up well with a spading fork, set out perennials and shrubs and cover with several inches of well-rotted manure.

The bulb beds must be well worked, the bulbs planted four inches deep, and then covered very lightly with well rotted manure. Too heavy a covering forces them to bloom much too early, and if the winter is mild a number of them will bloom throughout the winter. This irregularity of bloom makes a ragged looking bed in the spring. Save all the soot from the fall cleaning of fireplaces, chimneys and kitchen stovepipes, and all through the winter keep the wood ashes. Both are valuable to put around the roots of roses and violets; the potash in the ashes is an excellent fertilizer and the soot destroys insects.

Darwin tulips, planted in groups of a dozen among the perennials, make a very beautiful effect. After planting the hyacinth bulbs, sow on the surface forget-me-nots. This makes a beautiful effect if the hyacinths are buff or pale pink, and the forget-me-nots bloom before and after the hyacinths are gone.

On cool nights protect the roses, dahlias, and chrysanthemums from frost; plant-cloth or cheese-cloth is an admirable thing to lay over them. When the frost has killed the dahlias, cannas, and caladiums remove the roots carefully from the ground, digging all around, pressing the spade handle down and pushing gently under the roots. The dahlias are liable to break off if roughly handled. Let them lie on the ground in the sun, taking them in at night and shaking off the dirt; they should be put in a loft to dry out thoroughly, and then packed in a box of dry sand and put in a cool cellar. An-

other way to keep them over winter is to make a kiln in the garden. Place some straw or pine tags on the ground and put the roots on this upside down and in the form of a pyramid; cover well with pine tags and set on top a small tile pipe like a chimney. Pack down with earth, leaving the tile sticking out of top, and over all lay some planks against the pyramid to keep the dirt from washing off, and around the kiln dig a trench one foot deep for drainage. This is an excellent way to keep all root crops throughout the winter and is one of the best plans for keeping sweet and Irish potatoes after they have undergone the sweating process.

Remove all dead branches from the rose bushes and place well rotted manure around them. Work with a spading fork between the plants in the flower garden and leave rough and cover with manure for the winter. If the weather has been open it is not too late to get a few plants from the garden and put in pots for the window garden or the conservatory.

This is the ideal month for planting sweet peas. They should be planted in a long row on the edge of the vegetable garden and convenient of access. Dig a trench eighteen inches deep and the width of a spade, fill in six inches with well-rotted manure and over that three inches of good garden soil, sow the peas and fill in only two inches of soil. This will sink and leave a slight depression. In the spring, when the peas are about four inches high, fill in the soil around them a little at a time, and add then a little commercial fertilizer, one part each of muriate of potash and acid phosphate. As the peas grow keep filling in until the trench is level. Keep free from weeds and well cultivated, and later stretch a six-foot coarse wire net along the row, held in place every ten feet by a pole driven in the ground, the wire net being attached to it by staples.

Quite late in the month wrap the fig bushes in straw. They do best against a north wall. No protection is necessary in the Tidewater section, only near the mountains where the winters are more severe.

Peanuts are dug and stacked up to dry after the vines are destroyed by frost.

Chestnuts and chinquapins are gathered now. The native persimmon is quite good after several frosts, and makes a toothsome conserve if packed in glass jars with sugar sprinkled between.

Go over the orchard and scrape off the loose bark of the apple trees as it is a harboring place for insects. If any scale is discovered spray the trees with lime-sulphur. All dead limbs should be cut off with a slanting cut. Make a thorough inspection of peach trees for borers, and protect young trees from rabbits by a screen of fine wire netting at the base and close to the tree.

Give the vegetable garden a coating of agricultural lime if the soil is sour. Test different parts of the garden by mixing thoroughly a handful of soil with a pint or more of water and placing one end of a piece of blue litmus paper in the thin mud. If, in a short time, it turns red, the soil is sour. Ground that is constantly used for garden truck nearly always needs lime every five years. A rotation of crops is very necessary in a garden, and one should not plant the same vegetable in the same part of the garden two years in succession. For this reason, and also for mapping out one's plans, it is well to keep a plan of the garden with its changes every month.

It is not too late to plant crimson clover in that part that is not to be used early in the spring, providing a mixture of wheat, oats, and vetch are sowed with it as a protection against the severity of the winter.

Don't forget the celery. Keep banking it up with earth, and late in the winter cover over the top with pine tags and lay old bean poles or planks on top to hold them down.

At the end of the month put manure between the rows of spinach and onions. If placed on top it will rot them. A very light covering of pine tags could be put on the spinach that is sown broadcast.

The early part of the month is not too late for setting out raspberry canes and strawberry plants. Plant as suggested in October, 1914, issue of THE GARDEN MAGAZINE. Deciduous trees and shrubs can be planted at any time now, and until the ground freezes.

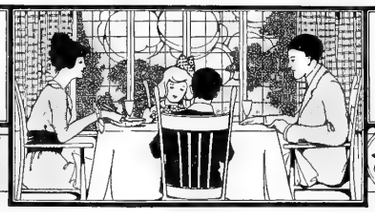
Virginia. J. M. PATTERSON.

Poultry, Kennel and Live Stock Directory

Information about the selection or care of dogs, poultry and live stock will be gladly given. Address INFORMATION DEPARTMENT, THE GARDEN MAGAZINE, 11-13 West 32d Street, New York.

If you wish information about dogs apply to the Readers' Service

SUGGESTIONS FOR THE HOME TABLE



Conducted by
EFFIE M. ROBINSON
Graduate of the National Training School of Cookery, London, England

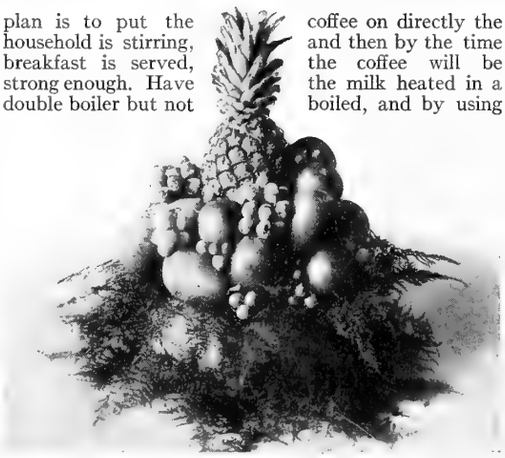
ARE not we housekeepers busy this month? The cold weather has started in earnest and the easy breakfast of ready-to-serve foods is satisfactory no longer. Hot and filling foods are needed to enable the out-of-doors members of the family to go off comfortably warmed in the morning. A good start helps to keep them in good health. Oatmeal is an ideal food for children. This used to take many hours to properly cook, when we had to use the coarse grains of oatmeal, called pin oats; but now the crushed or flaked grains, though the same thing, require less time. On the other hand I think those steam cooked foods require longer cooking than most people give to make them thoroughly digestible. Give an hour if possible. If a double boiler is used, you need not be afraid to leave it and it is not necessary to continually stir it to prevent burning. The food will be much more palatable if cooked a long time. Change, sometimes, from oatmeal, as a continued use of it is too heating to the blood.

Wheat is a very nutritious food also, as it contains gluten, a form of albumen, and may be more suitable to some people than oatmeal. There are several wheat preparations sold in packages that are to be highly recommended. In preparing these foods, follow the directions on the packages for quantity, but try cooking in half milk and half water, adding just a little sugar. We find this greatly improves the flavor.

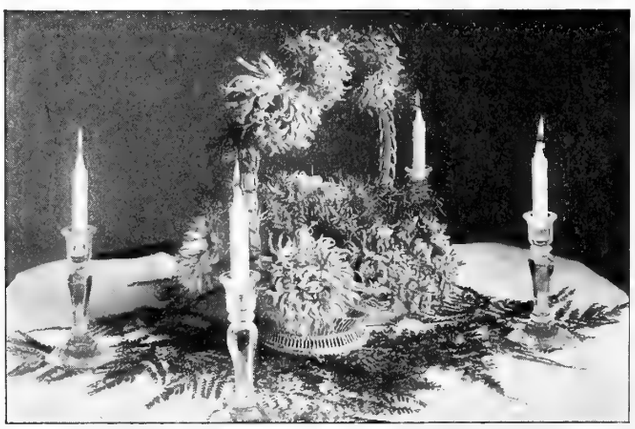
Rice can also be used, if it is liked. Some times I do not have cereal at all, but have wheat cakes or pancakes made with prepared pancake flour. Cakes, with hot corn cake and hot coffee or cocoa, make a fine breakfast.

How to Make Good Coffee

I certainly recommend every one who wants good coffee to get a percolator. I never would be without one. Mine is made like an ordinary coffee pot with top strainer. A stand comes with it which may be put right on the gas stove, and since I have had it I would never try to make coffee in the ordinary way. Only one thing you must remember—cook it for a long time. You see, in a percolator the water runs through the grains and unless this is done many times you will find the coffee is weak. A good plan is to put the coffee on directly the household is stirring, and then by the time breakfast is served, the coffee will be strong enough. Have the milk heated in a double boiler but not boiled, and by using equal parts of milk and coffee you will have an ideal drink. There is a splendidly flavored, ready to serve, coffee which only requires the addition of boiling water. This is excellent in case of an emergency. Of course, there are ever so many brands of coffee to choose from.



A graceful arrangement of fruit and asparagus fern



A chrysanthemum centre piece is made doubly attractive by the use of candles. For Thanksgiving, use yellow and bronze chrysanthemums

Why the Housewife Has to Get Busy

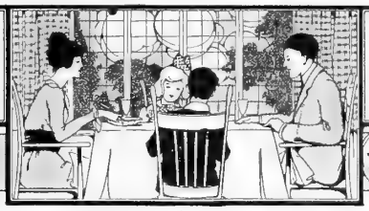
Leaving the matter of breakfasts, with the very start of November the housewife begins to think of the important event of the month, Thanksgiving Day. Such preparations are made for this great feast! The house is dressed in its best winter garb. Curtains and portieres are to be hung, and everything all through the house made as spick and span as possible. Then a little later comes the thought and preparation for the dinner. Of course it is a festival, but it seems to me that people put too much on the table at this time. For instance, a turkey for a real small family is ridiculous; it lasts so long afterward that every one gets tired of it. Why not a chicken instead, with cranberry sauce or jelly, as desired, two vegetables and, to follow, one dessert and fruit?

Put on your pretty table accessories, have clean linen and manage to have some flowers for decoration. A lovely idea I once saw was an oblong centrepiece of pale yellow velvet, which was stenciled in Virginia creeper leaves in the natural reds and browns of fall color. The flowers, in four tall vases, were brown and yellow chrysanthemums, with creeper leaves. These were placed at the four corners of the table, and one tall branched candlestick was in the centre with brown and yellow shades to match the centrepiece. Unless for children's parties, where they make some fun, I do not like the ugly pumpkin faces and figures that are so often used. Thanksgiving time is really the "harvest home" festival when the crops are all gathered in, and I believe that the harvest idea should be carried out in prettier fashion than by using the pumpkin.

Another very attractive table decoration is one composed of fruit—a pineapple, with apples, grapes, pears, oranges, etc. arranged around it—and asparagus fern. Chrysanthemums are the most appropriate flower for this season; they should also be combined with asparagus fern.

All foods advertised in this department have been tested and approved by Effie M. Robinson. They are also sold and recommended by the Doubleday, Page & Co. Coöperative Store

SUGGESTIONS FOR THE HOME TABLE



Conducted by EFFIE M. ROBINSON

Graduate of the National Training School of Cookery, London, England.

Free Cook Books Every Reader Ought to Have

MANUFACTURERS of standard food products are much interested in the proper cooking and the serving of dishes in which their products are used. Many of them publish cook books of great usefulness. We have requested a few of these manufacturers to allow us to distribute their books of recipes to readers of The Garden Magazine without charge.

Just write us a letter giving your name and address and we will have the books as listed below forwarded to you promptly. If you do not care for all please indicate by number those you do want. This list contains additional names to the list issued last month. Those who have written already for the list as published, will receive also these later listings.

No.	Manufacturer	Product	Name of Book
1	Royal Baking Powder Co.	Baking Powder	Royal Baker
2	F. A. Ferris & Co.	Hams & Bacon	Table Hints
3	Walter Baker Co.	Chocolate & Cocoa	Choice Recipes
4	Genesee Pure Food Co.	Jell-O	Desserts of the World
5	Diamond Crystal Salt Co.	Salt	101 Uses for Salt
6	*Burnham & Morrill Co.	Fish-Flakes	Good Eating & Sample
7	A. Colburn Co.	Mustard & Spices	Recipes
8	‡Cresca Company	Preserves, etc.	Cresca Delicacies - 2c
9	The Fleischmann Co.	Yeast	Good Things to Eat
10	Gorton Pew Fisheries	Cod Fish Flakes	True Food Economy
11	Hawaiian Pineapple Packers	Canned Pineapple	100 Recipes
12	Hills Bros. Co. [Ass'n.	Dates, etc.	Dromedary Cook Book
13	Geo. A. Hormel Co.	Hams & Bacon	Dainty Ways of Serving
14	Knox Gelatine Co.	Gelatine	Dainty Desserts
15	Francis H. Leggett & Co.	Premier Foods	Pure Foods
16	Minute Tapioca Co.	Tapioca & Gelatine	Minute Man Cook Book
17	Proctor & Gamble Co.	Crisco	Story of Crisco
18	Sea Beach Packing Works	Minced Sea Clams	Secret of Many Delight-
19	Southern Cotton Oil Co.	Salad Oil & Snow-	Recipes [ful Dishes
20	Stephen F. Whitman & Son	Chocolate, etc. [drift	Marshmellow Whip
21	Worcester Salt Co.	Salt	Worcester Cook Book
22	G. Washington Coffee Sales Co.	Instant Coffee	Booklet
23	‡Stickney & Poor Co.	Spices, Mustard, etc.	Fifth Generation Cook
24	McMonagle & Rogers	Fruit Flavors	Recipe Book [Book—2c.
25	Landers, Frary & Clark	Percolators, etc.	The Chafing Dish

*Sample of product on request. ‡Enclose 2 cent stamp for this book.

Address Miss Effie M. Robinson, Home Table Dept., Garden Magazine, Garden City, N. Y.

All foods advertised in this department have been tested and approved by Effie M. Robinson. They are also sold and recommended by the Doubleday, Page & Co. Coöperative Store

COMING EVENTS CLUB & SOCIETY NEWS

Meetings and Exhibitions in November

1, 2, 3.	Horticultural Society of New York, American Museum of Natural History, New York City: exhibition.
2-8.	Florists' Club of Washington: fall flower show.
3, 4, 5.	Elberon Horticultural Society, Asbury Park, N. J.: fall show.
3-6.	Pennsylvania Horticultural Society; Philadelphia, Pa.: annual exhibition and chrysanthemum show.
4-6.	American Institute, New York City: chrysanthemum show.
4, 5, 6.	Tarrytown, N. Y., Horticultural Society: 16th annual exhibition.
5, 6.	Worcester County Horticultural Society, Worcester, Mass.; chrysanthemum exhibition.
5, 6, 7.	Lancaster County Florists' Club, Lancaster, Pa.: fall show.
5, 6, 7, 8.	Massachusetts Horticultural Society, Horticultural Hall, Boston, Mass.: chrysanthemum show.
6, 7, 8.	State Florists' Association of Indiana, Indianapolis: chrysanthemum exhibition in conjunction with Chrysanthemum Society of America.
9.	Rochester, N. Y. Florists' association: regular meeting.
9, 10.	Horticultural Society of Chicago, Art Institute, Chicago, Ill.: chrysanthemum show.
11.	Nassau County Horticultural Society, Glen Cove, N. Y.: meeting.
11, 12.	Ontario Horticultural Association, Toronto, Canada: annual convention.
11-13	Reading, Pa. Florists' Association: chrysanthemum show.
12, 14.	Texas State Florists' Association, Houston, Texas: chrysanthemum and flower show.
13.	Connecticut Horticultural Society, Hartford, Conn.: regular meeting.
14.	Dobbs Ferry, N. Y., Horticultural Society: meeting.
16.	Staten Island Garden Club, New Dorp, S. I.: meeting.
17-21.	Maryland State Horticultural Society, 5th Regiment Armory, Baltimore, Md.: annual meeting and exhibition.
18.	Tarrytown, N. Y., Horticultural Society: regular meeting.
18, 19, 20.	Vermont Horticultural Society, Rutland, Vt.: annual meeting and exhibition.
26.	Tacoma Rose Society, Tacoma, Wash.: rose show.
27.	Connecticut Horticultural Society, Hartford, Conn.: regular meeting.
28.	Dobbs Ferry, N. Y., Horticultural Society: meeting.

Note: The Editors will be grateful for information about the doings of horticultural societies, garden clubs, etc., and especially as regards notices of coming events to be announced in this department. In order to ensure timely publication, the information must reach the Editors not later than the *twelfth day of the month preceding the date of issue* in which the notice should appear.

New Chrysanthemums

THE committees of the society for examining new chrysanthemums will meet each Saturday during November in Chicago, Cincinnati, Boston, New York, and Philadelphia. Any one having a new seedling or sport which has already been given two years' trial, may submit blooms to the nearest committee on payment of an entry fee of two dollars to be forwarded to the secretary in advance of the date of the meeting.

Chrysanthemum Society Meeting

THE twenty-fourth annual convention and exhibition of the Chrysanthemum Society of America will be held in Indianapolis, in connection with the State Florists' Association of Indiana, on November 6, 7, 8. The officers of the Chrysanthemum Society are as follows: President, William Kleinheinz; Vice-President, A. F. J. Baur; Treasurer, John N. May; Secretary, Charles W. Johnson, Morgan Park, Ills. In order to have the exhibition well patronized, the public will be admitted free of charge.

Tacoma Rose Society

TACOMA has had two rose shows this year and, before 1914 has closed, it will have held two more. The annual rose show, under the auspices of the Tacoma Rose Society, was held in June. Nearly 400 varieties of roses were exhibited and more than 40,000 roses were used in the decorations of the State Armory in which the exhibition was given. Among the 40 cups awarded was one from Hugh Dickson, the Irish rose grower. The Hugh Dickson is the Tacoma official rose, and the cup was offered for the best six. This cup must be won three times. Mrs. Talmadge Hamilton won it in 1913 and again this year. None but amateurs may exhibit.

In July and August a "Seven-Mondays' Show" was conducted by the Society in the dining room of the Commercial Club, and the exhibits filled twenty large tables each of the seven Mondays.

The next show will be given on Thanksgiving Day, and on Christmas Day a fourth exhibition will be held. It may seem strange that such shows are planned in a city lying so far north. Yet such exhibitions are altogether possible unless exceptional and wholly unexpected weather conditions nip the blossoms. Last Thanksgiving Day one of the Society's members exhibited in a downtown store window a bouquet of 52 roses, all taken from his open garden. His Christmas dinner table was adorned with a centre piece of 24 excellent roses from his garden. Nearly everybody with bushes has Thanksgiving Day blossoms, and there always is much good natured rivalry over exhibits of Christmas rose blooms.

At the shows, blossoms six inches and even seven in diameter are not rare, and stems often run to two feet. One specimen shown at the Commercial Club was 32 inches in length, this being a Mad. Caroline Testout, grown by Capt. T. H. Dobson.

A winter-killed rose is very rare in this section. Once in a while the bushes are slightly frost bitten. None of the growers protects his bushes except in the case of a few of the tenderest varieties, when an evergreen bough or two may be thrown over them. Experiments have been made to some extent by Mr. Carl Morisse in transplanting Puget Sound roses to Minnesota, Michigan, and Indiana, and the results have been gratifying.

The Rose Society has done a great work in encouraging the beautification of public ground and private residences. At its request the Park Board planted a large rose garden in beautiful Point Defiance Park. The bushes are carefully labeled with the name and some facts about its habits. The Rose Society holds monthly meetings, at which everything pertaining to rose-growing is discussed, and, at one or two meetings in the late winter, demonstrations of pruning are given. Each spring the Society distributes a great number of rose slips, the most successful distribution resulting in more than 200,000 of these slips. This distribution, while under the Society's auspices, was conducted by the *Evening News* and *Morning Ledger*.

American Carnation Society

NEW carnation registered by Herman C. G. Schwarz, Central Park, N. H.—Siren; seedling cross on Enchantress. Color brilliant flesh pink. Size 3½ to 4 inches. Ideal upright grower and easy rooter. Dark green foliage and no surplus grass. Produces flowers freely and on long strong stems.

A. F. J. BAUR, Sec'y.

An Award of Merit

WALTHAM Scarlet, a new scarlet, single Hybrid Tea rose, has had conferred upon it, across the Atlantic, an Award of Merit. The flowers are about three inches in diameter, are of an intense rose red, against which the yellow stamens in the centre of the flower make a striking contrast.

New York Florists' Club

AT THE October meeting, Mr. C. H. Totty showed flowers of a new white sport from Mrs. George Shawyer rose. It bids fair to become a very popular variety for growing under glass, and is the counterpart, in every way except color, of its pink parent. Blooms of a new strain of dahlias were staged by W. A. Manda. This strain seems to have greater vigor, with the blooms borne in great profusion and on long stems. J. L. Childs sent his "wool flower" celosia; and a magnificent new white chrysanthemum, flat, incurved, white, very large, named Antigone, was also contributed by Mr. Totty.

THE TALK OF THE OFFICE

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra.*

REBUILDING

UP TO the present time the rage of destruction goes on unchecked, and there are few or no signs of anything else. Everywhere outside of the terrible war zone people are wondering how and when is to begin the process of rebuilding what has been so recklessly destroyed. After three numbers of the *World's Work* devoted to blood and carnage, it should be an inspiration to turn to a subject fundamentally constructive, and we again announce for December a number taking for its text "U. S. the Rebuilders," which is coming as near to a Christmas sentiment as is possible in this degenerate year. If there is to be no "Peace on Earth" perhaps from our neutral viewpoint there may be at least some "Goodwill to Men."

Here are the subjects which we hope to cover in this issue—subjects which we may well study at this time if we are to be the larger spirited country we hope to become:

WHERE THE TRADE WAITS. South America, the Near East, Africa, and the Far East.
OUR TREATY TIES. Our foreign relations, the Monroe Doctrine, the Wilson Doctrine, the Open Door.
WHERE FOREIGN TARIFFS AFFECT US. How we are affected by the tariffs all over the world.
THE OPEN DOOR, THE OPEN SEA, AND FREE TRADE. A broad gauge policy for a big nation.
AN AMERICAN MERCHANT MARINE.
AMERICAN POPULARITY IN FOREIGN LANDS. Interviews obtained.
WHY I AM AN AMERICAN. By a German, a Frenchman, a Swede, an Italian, etc.
THE TIES OF BLOOD.
AMERICAN TRAVEL ABROAD. See the Americas first.
AN AMERICAN MERCHANT MARINE AND WHAT IT CAN DO.
HOW BEST CAN THE U. S. SERVE CIVILIZATION IN THIS CRISIS?
FOREIGN BANKING OUTPOSTS. American banks abroad and what they can do.
AMERICAN LOANS.
AMERICAN DIPLOMACY.
THE CONCESSION BUSINESS.
WHAT WE ARE DOING TO MEET OUR NEW RESPONSIBILITIES.
THE EFFECT OF CAPITAL ON TRADE.

A SPANISH EDITION

It is a pleasure to learn of the demand in South America and other Spanish speaking countries for a Spanish edition of the *World's Work*. Some of the larger American firms and corporations have planned to join with us to get a wide circulation for the December magazine in these countries, and the Rebuilders Number will be issued, if our plan works out, in both languages about December 1, 1914. If you are interested in getting into these new fields, write us.

BOOKS AND YET MORE BOOKS

We hope we are not obsessed by the war. The making of Fewer and Better Books goes on, we are thankful to say, successfully. The publishers report that the book publishing and selling business is good. Here, in brief, is the fall list, details of which appear in other advertising pages in this issue:

THE TWENTY-FOURTH OF JUNE. By Grace S. Richmond, $1.25 net.
ALMAYER'S FOLLY. By Joseph Conrad, cloth, $1.25 net; limp leather $1.50 net.
THE PLACE BEYOND THE WINDS. By Harriet T. Comstock, $1.25 net.
CHANGE (Vol. VII of the Drama League Series). By J. O. Francis, 75 cents net.
JOSEPH CONRAD. By Richard Curle, $1.25 net.
THE TEETH OF THE TIGER. By Maurice Leblanc, $1.25 net.
ASTRONOMY (Threshold of Science series). By Camille Flammarion, 50 cents net.
BAMBI. By Marjorie Benton Cooke, $1.25 net.
BY AND LARGE. By Franklin P. Adams, $1.00 net.
THE WILD TURKEY AND ITS HUNTING. By Edward A. McIlhenny, $2.50 net.
SCOUTING WITH DANIEL BOONE. By Everett T. Tomlinson, $1.20 net.
MYTHS EVERY CHILD SHOULD KNOW. Edited by Hamilton W. Mabie. Holiday Edition, illustrated by Mary Hamilton Frye, $2.00 net.
MARTA OF THE LOWLANDS (Vol VIII of the Drama League Series). By Angel Guimera, 75 cents net.
THE SEALED VALLEY. By Hulbert Footner, $1.25 net.
THE BEST STORIES IN THE WORLD. Selected by Thomas L. Masson, of *Life*. New limp leather edition (boxed), $1.25 net.
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It has been a source of great gratification to us that our suggestion that old friends should send a short time subscription to the *World's Work* to their friends has been responded to by many thousands. May we still suggest that a three months' subscription for 50 cents would be an interesting and pleasant attention from one friend to another? Two for $1.00. Use this coupon if you will be so kind: they are coming down like a white shower in the mail room, and cheer us up wonderfully.

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Grass Under Beech Trees

It seems to be impossible to make grass grow under beech trees. Would it be practical to break up the poor sod with some shrubbery which I could fertilize?—B. K. C., New Jersey.

—IT WILL be impossible for you to get shrubs to grow under the beech trees any more than grass. The reason being that the trees take all the moisture out of the ground, and, if you put fertilizers in the ground it will only make the trees grow more rapidly. The only thing to do is to plant the shrubs at some distance from the trees and in this way hide their bases. No one to our knowledge has ever yet succeeded in growing plants or grass close up under beech trees.

Ammonia on Plants

Is the use of ammonia beneficial in growing flowers and plants; and if so, kindly give me information as to its proper application, etc.—E. B., New Jersey.

—AMMONIA is valuable as a source of nitrogen, and it is the ammonia in stable manure that is immediately available as plant food. It is difficult to use ammonia as a fertilizer; on account of its highly volatile character it becomes lost in the air and only a small proportion of it is made use of by the plant. It is better to use it in one of the fixed salts such as the muriate or sulphate or in nitrate of soda. If ammonia is used in the ordinary aqueous solution it might be applied at the rate of one teaspoonful to a gallon of water and used in the ordinary watering process, say once or twice a week. Such a fertilizer, however, is only to be used on plants in actually growing condition and not toward the end of the season when the plants are ripening their growth.

Where to Buy Burbank's Creations

Does any nursery firm in the East handle most or all of Luther Burbank's plant creations? Also, where can I get the Gold plum, one of Burbank's productions? —H. P. S., Wash., D. C.

—WE DO not know of any eastern nurseryman handling the Luther Burbank productions. With the exception of a few things which have passed into the general trade and can be obtained of any nurseryman, the purchaser has to deal with the Luther Burbank Co., San Francisco, and the Fancher Creek Nursery at Fresno, Cal. The greater number of the Burbank introductions are not seemingly well adapted to the conditions in the East. Of course, there are exceptions, such as certain plums, the Shasta daisy, etc. The Gold plum was purchased from Burbank by the Stark Brothers Nurseries & Orchards Co., Louisiana, Missouri, and was catalogued and put on the market by them in 1894.

Mice Destroying Bulbs

Every winter and spring mice destroy my hyacinth and tulip bulbs. Is there not something I can use to prevent this, or to poison the mice?—W. G., Long Island.

—NO WAY has yet been discovered to prevent mice from eating hyacinth and tulip bulbs. If the bulbs are planted deeply enough in the ground the danger of the bulbs being destroyed by mice will be greatly lessened. Of course, this is assuming that the bulbs will be planted out of doors in the garden.

Improving an Old Lawn

What is the best treatment for improving my lawn without tearing up and reseeding? Shall I scatter plenty of seed on the old sod, together with a liberal supply of the advertized Dried Horse Manure and either Calcium or Alphano Humus?—E. E. B., L. I.

—YOU CAN improve your lawn without tearing up and reseeding it if it had sufficiently good soil to start with. Very frequently spring renewal is done in this way: The lawn is gone over with a sharp toothed iron rake and severely scratched, even though some of the grass is torn up by the roots. A top dressing of good soil is then scattered over the plot and grass seed scattered over this at the rate of about two bushels to the acre. After this the lawn must be rolled so as to bring the seed and the soil into close contact. The humus asked about is an excellent material and can be used as a top dressing over lawns at almost any time of the year. This might be mixed with the dried horse manure to advantage as a winter mulch. There would be no particular gain in reseeding in November as the young grass would not grow much during the winter, and if it is done a little later the seed will remain dormant all winter and be ready to grow in the spring. Constant top dressing, plenty of humus, reseeding and plenty of rolling and water will keep any lawn in condition.

Rhododendrons and Azaleas in Shade

Will rhododendrons and azaleas grow under the branches of Norway spruce?—G. T. F., Mass.

—WE WOULD not consider it wise to plant rhododendrons or azaleas under the branches of Norway spruce. They will grow in company with spruce but the dense shade of an evergreen tree is fatal to any shrub under it. The plants you name will grow on the fringes of hemlock plantations but only in places where they can get the sun for a part of each day.

Fertilizing Iris

For best results, how should Japanese and German iris be fertilized?—R. D. H., Mass.

—WE DO not generally consider it advisable to use fertilizers on iris on any ordinarily good soil, plain water seemingly giving all that is required when applied in abundance during the growing season up to and immediately following flowering. Some growers use cow manure water on Japan iris, but with ordinarily fertile soil to start with, extra doses of fertilizer are not necessary unless the plant fertility is being washed out through constantly flowing streams of water. If you want a richer soil use good garden loam fertilized with well rotted manure dug in.

Wood Lice on Chrysanthemums

My chrysanthemum plants, being in new soil, are infested at the roots with wood lice. I have failed to destroy them with lime water; is there anything else I might use that would not be injurious to the plants?—W. H. A., S. C.

—WE DO not think the wood lice will injure your hardy chrysanthemums. You might flood them out with heavy waterings. However, if the plants are kept constantly growing, the wood lice will not seriously affect them. If you think it necessary you can lift the plants and place them in a new location.

Scale on Peach Trees

I have an Elberta peach tree which is maturing a large first crop, but the tree has scale, and on account of many small bits of gum on the tree I suspect the presence of borers. Is it possible for me to conquer these two troubles? There are also three varieties of lady bugs on the tree; would not this also indicate the presence of borers? What is the most comprehensive and compact book on fruit growing?—E. H. M., Maryland.

—THE SCALE is attacked by numerous predaceous and parasitic enemies, which render important service in its control but practically, the combined influences of these several agencies is not sufficient to make up for the enormous reproductive capacity of the pest and its control must be accomplished artificially by spraying. The lady beetles are beneficial insects as their larvae eat up the aphides. The lime-sulphur preparation, which you can buy in concentrated form at seed or garden supply stores is the best spray for your purpose. You might spray twice during the summer with a greatly diluted solution, and again during the dormant season—that is, between November and March—with the regular winter strength. The appearance of gum sometimes indicates the presence of borers but if these are present you will also be able to find the openings of their burrows under the masses of gum. Cut these away until the direction of the tunnel can be learned; then run a sharp wire into it until the borer is crushed. To prevent borers from entering the tree next year you might paint the lower half of the trunk early in June with a whale oil soap solution, a strong solution of lime-sulphur or a mixture of pure white lead and raw linseed oil. One of the handiest and most compact fruit-growing books that we have seen is "How to Grow and Market Fruit," published by Harrison's Nurseries, Berlin, Md., price fifty cents. A larger book, but one quite reliable, comprehensive and readable, is "How to Make a Fruit Garden," by S. W. Fletcher, price $2.20 postpaid.

Planting Distances for Dwarf Trees

How far apart should dwarf pear and apple trees be planted in a small home garden?—E. M., Calif.

—THE USUAL distances for planting dwarf apple and pear trees range from ten to fifteen feet, but particular conditions dealing with the soil, the method of pruning, etc., may be sufficient to justify variations even from these.

Legumes for Green Manure

What is the best legume that can be planted now in Maryland, to plow under next spring for green manure? —H. B., New York.

—OF COURSE the length of the growing season in any particular year and in the particular section of Maryland to which you refer will affect the amount of growth that the cover crop will make in the fall. However, we believe that the following, in the order named, will prove the best green manures for your section: Crimson clover, vetch, sweet clover, soy beans, cow peas. The last two are, of course, annuals and will probably die during the winter. The first three will resume growth next spring until plowed under.

New Hybrid Iris

Where can I obtain the new hybrid iris, Edouard Michell, mentioned in the September GARDEN MAGAZINE?—C. S. P., Ohio.

—TO THE best of our knowledge, this iris must be obtained from abroad, from such people as Barr & Son, London, and R. Wallace & Co., Colchester, England. However, any of the dealers in this country would import this iris for you on order, which would be the most satisfactory way for you, thus avoiding all custom house details, etc.

Two Peonies Compared

What are the respective merits of the peonies Eugene Verdier and Eugenie Verdier?—H. G. R., Penna.

—EUGENE VERDIER is often spoken of as one of the few finest of all the varieties of peonies; Eugenie Verdier would, I think, scarcely ever be put so high as that, though it is also a fine sort. My personal preference would be for Eugene Verdier for all purposes. There is another variety sometimes sold for Eugene Verdier which the growers, represented in the American Peony Society, have now pretty well agreed to recognize under the name L'Indispensable, which is probably its correct name. This is a tall-growing kind with very large blooms which sometimes develop magnificently, but are often imperfect owing to a splitting of the bud. Some few growers place this variety very highly, but in my judgment it should not be placed as high as either of those mentioned above.—A. P. SAUNDERS.

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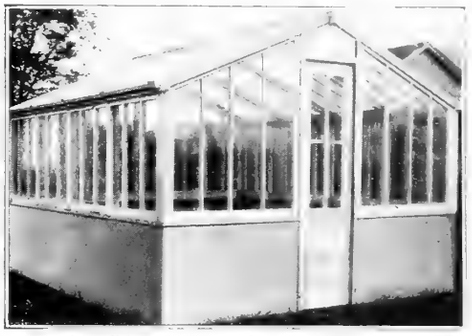

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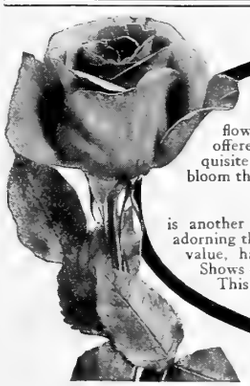

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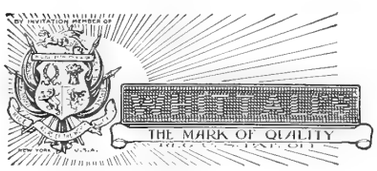

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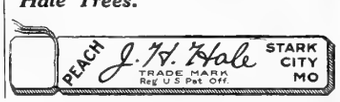

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And go to 't with delight."—*Antony and Cleopatra.*

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AFTER long preparation we are ready to announce a series of books on current problems which will take up the most interesting questions at issue in America to-day. The feature of this series will be the discussion of distinctively American movements by American authorities, and of problems connected with the future prosperity of the United States. We have therefore chosen as a title for the series, **"The American Books."** These volumes will be of pocket size, well bound in scarlet cloth, and will be sold at the popular price of 60 cents a volume.

The series was projected many months before the Great War, but it derives additional importance from the new position which that great struggle has given America on the face of the globe. The United States, standing aloof from the suicidal bloodshed of the Old World, will probably become the peaceful arbiter of the earth's destinies and the flywheel to keep the industry of the world revolving. A new responsibility toward the world's welfare has therefore devolved upon the United States.

An inquiry into the meaning and tendency of American civilization to-day is thus not only a matter of high interest but of patriotic duty. We wish "The American Books" to be a series of brief authoritative manuals which will attempt to lay bare some of the problems that confront us to-day; written in popular terms that will inspire rather than discourage the casual reader. The series should prove not only of great interest to all American citizens who wish to aid in solving their country's pressing problems, but to every foreigner visiting this country who seeks an interpretation of the American point of view.

We wish "The American Books" to be written by the best men, and to this end seek the widest publicity for the plan. We shall be glad to receive suggestions as to titles for the series, and shall welcome authoritative MSS. submitted from any quarter.

The first volumes of the series will be published early in 1915. Titles now in preparation are:

THE AMERICAN INDIAN
By Charles A. Eastman (Ohiyesa), author of "Old Indian Days," "Indian Boyhood," etc.

A HISTORY OF AMERICAN LITERATURE,
By Prof. Leon Kellner of the University of Czernowitz (Austria), translated from the German by Julia Franklin.

THE COST OF LIVING,
By Fabian Franklin, Associate Editor of the New York *Evening Post.*

SOCIALISM IN AMERICA,
By John Macy, late literary editor of the Boston *Herald*, author of "The Spirit of American Literature."

THE DRAMA IN AMERICA,
By Clayton Hamilton, author of "The Drama of To-day," "Materials and Methods of Fiction."

THE AMERICAN COLLEGE,
By Isaac Sharpless, President of Haverford College.

THE AMERICAN SCHOOL,
By Walter S. Hinchman, Master in Groton School.

THE UNIVERSITY MOVEMENT,
By Ira Remsen, late President of Johns Hopkins University.

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By Rear Admiral French E. Chadwick.

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It is safe to say that but few Conrad books have been given as Christmas presents before this year. And equally safe to say that the Deep Sea Edition in sea-blue leather, pocket size (at $1.50, net, per volume), will be a popular gift among discriminating book lovers this December.

During this past year Conrad has won his real and wide recognition in America. The year 1915 will add still more to his popularity. Many famous critics think Conrad the great literary artist writing in English to-day, and "Chance" was voted the most important novel published in England in 1914.

The Conrad volumes bound in blue leather are as follows:

CHANCE	ALMAYER'S FOLLY
AN OUTCAST OF THE ISLANDS	YOUTH
THE NIGGER OF THE NARCISSUS	LORD JIM
'TWIXT LAND AND SEA	FALK
TYPHOON	ROMANCE (WRITTEN WITH FORD MADOX HUEFFER)

THE NATURE LIBRARY AS A CHRISTMAS PRESENT

The new edition, half the thickness, at half the price, on thin paper, but with every identical picture and illustration and word of text, is now ready. The first edition of The Nature Library was in 17 volumes, and cost $68. Many thousands bought it, but we thought of the many other thousands to whom this sum would seem high. So we devised a way to make The New Nature Library so that it could be had at less than half the old price. And the way lies in the new use of the thin paper that has come to be recognized as an improved method of book making; thus the 17 volumes were put into 8, without taking out one page, or one color plate, or illustration. Following are the subjects covered:

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THE GARDEN MAGAZINE

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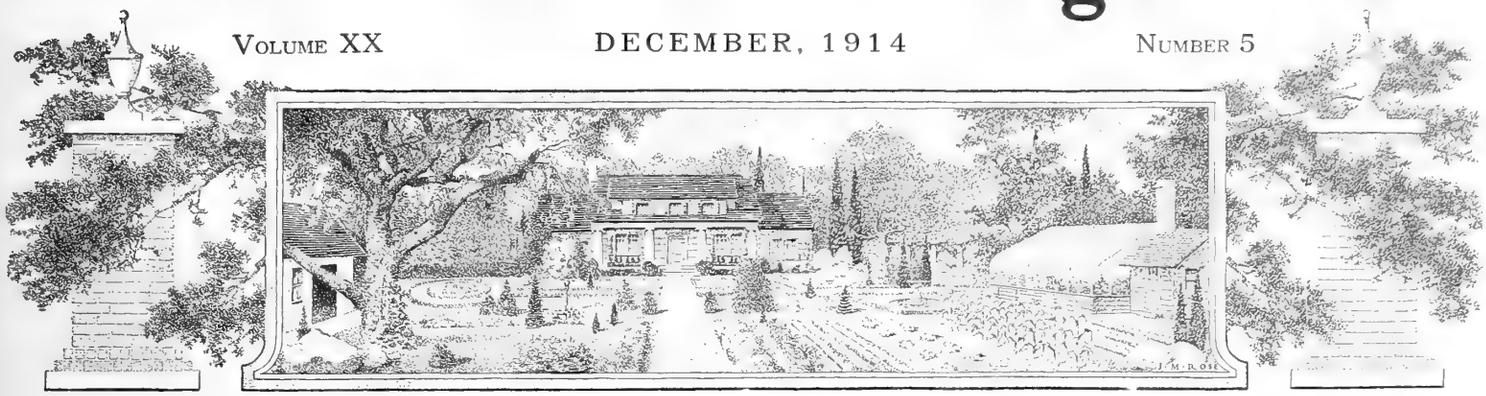


THE MONTH'S REMINDER

COMPILED WITH SPECIAL REFERENCE TO THE HOME GARDEN, FROM THE TEN YEARS' DIARIES OF A PRACTICAL EXPERT GARDENER

For reckoning dates, the latitude of New York City is generally taken as a standard. In applying the directions to other localities, allow six days' difference for every hundred miles of latitude

DURING this month thoroughly clean up the garden, and make snug for winter. See that every nook and corner is thoroughly raked out and all refuse burned. Spade the garden before the soil freezes; let the ground stay rough over winter, if the soil is acid. This is a good time to apply a dressing of lime; sprinkle it over the surface, using as much as you can afford. This, allowed to stand all winter, will neutralize the acids in the soil by spring. Air slaked lime is the best for the purpose. Last month it was suggested that trenching the garden would prove of value in reducing the crop of cutworms next year. It is still not too late to do it; in which case the lime would not be applied until after the trenching is finished.

Keep right on raking leaves and piling them up at some convenient, yet out of the way, place for a stock of leafmold later on. Also pile all leaves near by on your rhododendron bed.

During December, considerable heat is required in the greenhouse and without proper precautions the plants will become badly infested with green fly, red spider, thrip, etc. It is a wise policy to use preventive measures, as these pests, when once well established, are very hard to get rid of. Therefore, make a habit of spraying your plants once every week or ten days with a weak solution of tobacco water or some such preparation, such as aphine. This, with an occasional dusting with tobacco dust, will keep the plants free.

Vegetables in Trenches

PLENTY of dry leaves, salt hay and other covering materials should be on hand, for additional covering for all the vegetable trenches during severe weather. In mild weather very little covering is required, but it should be on hand for additional covering for all the vegetable trenches during severe weather. Do not put on the extra covering unless it is necessary as too much covering will create heat and cause the vegetables to decay.

It is still not too late to mulch all permanent beds, such as asparagus, rhubarb, horseradish, herbs, etc. In fact, when mulching, it is always advisable to wait until the ground is slightly frozen.

Perennial Borders

THE final protection may now be applied to all the tender perennials, such as anemone, anchusa, tender iris, campanulas, pompon chrysanthemum, Incarvillea, tender lilies, poppies, etc. Any attempt made to cover these plants should be with the idea of protecting them from excessive moisture as this, coupled with freezing weather, is very disastrous. Kept dry, all the plants named—and most others too—will stand very severe weather. This fact is proven by perennials which are considered tender, living out all winter without any protection in dry mountainous regions where extreme cold is encountered. Boxes, boards, mounds of earth, tar paper, or anything that will turn water, should be used in connection with litter or leaves in the protection of the tender plants. Tritomas and montbretias are considered very hard to winter. In fact, I have never had any success leaving them outdoors on Long Island no matter how carefully I have protected them, although both are hardy at Lenox, Mass., and even at Bar Harbor, Maine, where the winters are much more severe. In low places, where alternate freezing and thawing is the usual winter weather, it would be best to lift them and store in a cool cellar for the winter.

When winter comes the beauty and value of the evergreen is fully realized. Look around your garden now, make your plans for spring planting and place your orders. Evergreens may also be moved in winter, with frozen balls

PROTECTING materials should now be applied to all tender shrubs and trees when necessary. All the tender ever-

greens such as the retinisporas, rhododendrons, boxwood, andromeda, etc., need some little protection, *but don't forget that too much protection is just as great a danger as too little.* Damage to most plants of evergreen character is caused by sudden changes, such as a very low temperature followed by a strong sun. The best protection against such conditions is a few pine boughs, placed about the plants, which is done by first making a hole with a crowbar and ramming the sharpened end of the bough into place. This form of protection also has the advantage over any other in appearance. When you get a number of plants strawed up they resemble a cemetery. If you have to resort to straw, however, it makes an excellent protection, but be careful not to put it on too thick. Dwarf plants, such as boxwood edging, can be protected by placing boards over them, or laying pea brush over the plants and covering this with hay or pine branches cut very short.

Tender Trees and Shrubs

AS SUGGESTED last month, all permanent borders, no matter what the character of the plants, should be well mulched. This not only helps to protect the roots during severe weather and sudden changes, but because of this yearly application of fertilizer, the ground does not run down and become impoverished. This applies particularly to perennial borders, fruit borders, shrubbery borders or beds, the small open border surrounding specimen plants (particularly evergreens), rose gardens, etc.

Protection and Feeding

IT IS still not too late to plant anything that is perfectly hardy; in fact, you can work just as long as the ground can be handled. It is wisdom, however, to mulch all late plantings. And do not under any circumstances leave the plants around with the roots exposed during freezing weather. That is even more harmful to them than exposure to a strong sun in summer.

Keep on Planting

THIS is a good time to think of preparing for the removal of any big trees. They can be dug around leaving them in position with a large ball of earth and allowed to freeze, after which they can be handled with impunity as none of the roots will then get disturbed. It is well to lay some hay over the ball of earth during mild or rainy weather, which will prevent the weather from cracking the soil and washing down.

Moving Big Trees

BEDS or borders which were planted with bulbs should have a good application of leaves after the freezing weather sets in. This keeps an even temperature and prevents alternate freezing and thawing, which sometimes causes the bulbs to rot. Remove the covering early in the spring or the bulbs will start growth too early.

Where Bulbs were Planted

All very tender shrubs, such as tender roses, tender forms of hydrangea, etc., should be buried. This is the best way to winter tender plants, and although it is quite troublesome it is very effective.

AFTER all the foliage is off the fruit trees, look them over carefully for scale, and if there is the least indication of it spray the trees with one of the special scale preparations like Scalicide or one of the lime-sulphur washes now offered by many manufacturers. This should be done at once, and if attended to you can positively overcome all attacks of the pest.

Spray for Scale!

SEA kale, rhubarb, asparagus and endive can all be forced at this time, and while each one differs somewhat as to details of culture the conditions required are very similar. The usual procedure is to plant the roots in something that is retentive of moisture, such as spent mushroom droppings and soil mixed in equal quantities. They are usually grown under the benches where it is dark; the sea kale and endive in pots, the rhubarb and asparagus in beds. In this way they do not occupy any valuable bench space. They require frequent watering, but do not allow the soil to get wet and soggy. The asparagus and rhubarb will do well enough with just a curtain of canvas or burlap hung along the bench to keep out the light. The sea kale and endive should have inverted flower pots placed over them so that they will bleach thoroughly. The endive referred to is the French endive listed in seed catalogues as Witloef chicory.

Root Forcing

The French globe artichoke should be protected over the winter; but be careful, for too much covering will cause rot. The best plan of which we know is to place over the plants a triangular support, such as a tomato trellis, and place the protection over this. Corn stalks covered later with hay, leaves, or anything of that nature, makes the ideal covering. Do not let this covering come in contact with the plants.

PALMS and such plants that are not in active growth during early winter should be watered occasionally with lime water. This prevents the soil from souring. Vines (such as allamanda, bougainvillea, etc.), which are planted in an open border, should be dried off so that they lose their leaves or at least part of them. This gives them a good rest, but do not dry them off so that the wood shrivels. Now is also a good time to look over the bulbs that have been stored for the winter—such as dahlias, gladiolus, etc—to be sure that they are all right.

In the Greenhouses

SUCCESSION sowings can be made of beans. cauliflower, beets and carrots, making two sowings of the beans and cauliflower and one of the beets and carrots. Muskmelons started now are easy subjects to force; as the days soon begin to lengthen, forcing becomes easier. These should be sown singly in 2-inch pots; and use only the forcing types if you want the best results.

Vegetables Indoors

MAKE sowings of Gypsophila elegans, schizanthus and rhodanthe. These are all good flowers for cutting or pot work. Carnation cuttings should be taken this month, stuck in sand. Take the cuttings from healthy plants and from flowering shoots, only. Calla lilies started early can be fed freely at this period.

Starting Flowers

SOME of the early planted lilies should now be showing bud, which is time to start feeding. Do not start feeding until they do show bud, or they will start into renewed growth.

Bulb forcing is one of the most profitable and interesting and perhaps easiest way to obtain winter flowers. Commence now; there is an endless number of varieties that will give a continuous supply of flowers from now until spring.

Forcing Bulbs

Roman hyacinths can be brought into the heat and forced, as can the French grown narcissus which lend themselves to early forcing. The Paper Whites can also be forced at this early date and freesias should be fairly well advanced. In fact, they should be in bloom the latter part of the month.

Late this month, any of the Polyanthus type of narcissus can be brought inside as can some of the earliest on the single tulips. Always try to bring in the bulbs at the rate you can use them. This will insure good flowers at all times. Better not bring inside any of the double tulips until next month; also any of the large trumpet types of narcissus; the Parrot, Darwin and Gesneriana types of tulip should be left outside until February 1st.

ALL bulbous plants require quite a lot of water. In fact, they can be grown in water, so it is advisable to water them copiously when in soil in pots; also feed freely after the buds appear, using liquid manure for the purpose. All bulbs should be placed under the benches when first brought in. This lengthens the stem but they must not be neglected and left too long, or weak stems will be the result.

Watering Bulbs

Late in December, bring spirea (astilbe) into heat. It can be brought into the greenhouse earlier than this, but it will not seem to do so well or to flower any earlier.

LILY-OF-THE-VALLEY can be forced the year round by using cold storage pips. This flower does not force well until it has had sufficient rest, therefore if cold storage roots are not used, do not bring the pips into the greenhouse until late in the month.

Lily-of-the-Valley all year

NOVELTIES AMONG CHRYSANTHEMUMS

SEEN AT THE LEADING EXHIBITIONS OF THE SEASON

Photographs by J. H. PEPPER, E. D. SMITH, and others

HARVEST MOON—A new deep yellow Pompon which A. N. Pierson, Inc., has been exhibiting this season. It throws well-formed sprays

MARIGOLD—An exhibition and commercial flower of wonderful color Brighter yellow than Golden Wedding and comes to maturity by middle of October. (E. D. Smith Co.)

NESCO—A silvery pink Pompon by Elmer D. Smith & Co. Notable for its clean color, perfect flowers and graceful growth

GOLDEN MENSA—A beautiful yellow form of the familiar white Mensa. When disbudded the flowers may be had 3 in. and more across. Suitable for vase work and table decorations. Exhibited this year for the first time

ANTIGONE—A glistening white incurved Japanese. Very early, and has scored well, both in the exhibition and commercial sections. Exhibited by C H. Totty

LILIAN DOTY—Very prominent at the shows. A splendid pink variety throwing large and handsome trusses of flowers, and when disbudded, flowers 3 in. across. A disbudded stem and a cluster in contrast

MRS. J. PURROY MITCHEL—A snow-white exhibition variety of the Japanese reflexed type. Very large, some of the blooms seen measuring over 10 in. across. Foliage good. Exhibited by C. H. Totty

KEWANEE—Giving an entirely new color—a chamois yellow—a tall growing plant if started early. The high moulded form of flower makes it good for collections. Certificated. (E. D. Smith & Co.)

MRS. R. C. PULLING—A shapely flower of the Japanese incurved type, suitable principally for exhibition purposes. In color it is an unusual yellow or buff. An English variety, introduced by C. H. Totty

ZORA—An early flowering bright yellow Pompon of graceful form and having large flowers on good stems. Certificated by C. S. A. (Smith.)

EXCELSIOR—One of the most beautiful of this season's novelties, particularly adapted to vase work. Its petalage is light but tough. Its color is a delightful dark terra cotta, with greenish yellow centre. The flowers may be had on long single stems.

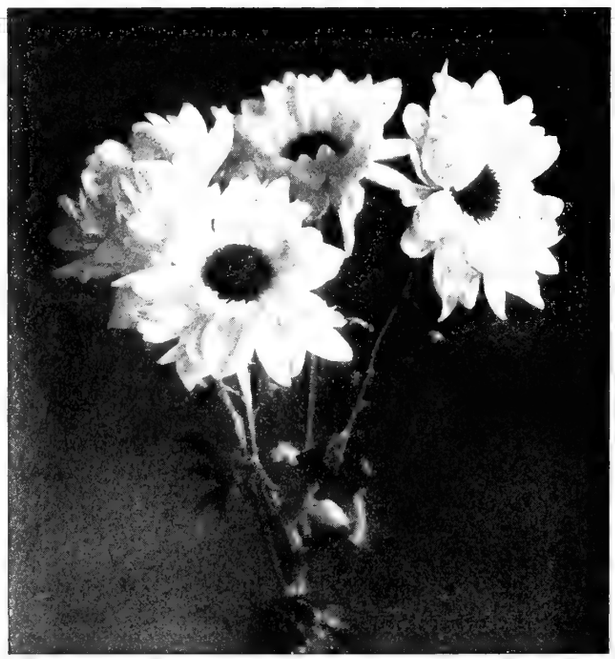
ILLONA—Late flowering Pompon rosy lavender color. The flowers are well borne and very freely produced. Certificated. (Smith.)

GOLDEN QUEEN—Incurved, clear yellow, maturing early in October. Acceptably received as an early commercial flower. (Smith.)

CRANFORDIA—An improvement on last years Cranford Yellow. A deeper and more pleasing yellow and somewhat sturdier of habit. Plants may be grown ten and twelve shoots to a plant. The flowers in our photograph were four and five inches across, on long single stems. Good outdoors, or in pots under glass.

CRYSTAL GEM—A white for commercial purposes, coming into bloom during latter part of October. The bloom is well formed and solid. (Smith.)

A. S. BALDWIN—A shapely light yellow incurved Japanese, good for exhibition or commercial use, with broad and strong petals. Its habit of growth is good, and it should do well anywhere.



R. B. BURGE—A glistening white with yellow centre, is one of the best of the single chrysanthemums. The variety may be grown and flowered outside, or brought indoors for finishing. The form of the flower makes it excellent for packing and shipping.

MODELLE—A new color in commercial blooms, closely approaching orange, with tinges of amber. It comes in during the full November season. Certificated. (Smith.)

Roberta of Roseberry Gardens

By Frances Duncan
Decorations by Jack Manley Rosé

Roseberry Gardens is not a historic account of an actual nursery, although I dare say it is typical of other days and many of the older nurseries, when the nursery business was more leisurely and perhaps more scholarly than to-day. To one who has ever been in touch with the growing of plants there is a poetry and charm in the life of the place which no other business possesses. And if the reader finds a little of the sheer happiness there is in having to do with the exquisite young life, the story will have been worth while.

(*Continued from page 122, November Number*)

MISS HEWSON,' I says, 'belike ye're not aware that 'tis not of hersilf yer mother is thinkin', but of children an' grandchildren and of makin' the place beautiful for thim. 'Tis yersilf and yer children afther you that'll see the full beauty of that rhodydendron.'

"At that she quieted down a bit an' let the old lady buy two or three plants. But 'twas not long before she began again wit' her 'Now mother!' She spint but fifty dollars, did the old lady. She'd have spent two hundred and fifty if the daughter'd let her alone!"

"'Oh, Miss Hewson,' I says to myself, 'indeed you'd do better if you'd as much since as yer mother. And you'd give a lot of that same State of Pinnsylvania if you was as young and good lookin' as the gur-rl we have in the office!'

"'Tis a pity," said Michael shaking his head, "for a gur-rl to grow up like that. But her father's a State Sinator, and what can you expect!"

CHAPTER V

ON the May morning when we first met Michael O'Connor (when the grumbling teamster had at last gone down the road), he returned to the office and sat down beside the big desk where the young secretary was established.

"Thank Hiv'en that's done!" said Michael fervently. "'Tis like a nightmare sittin' on the chist of the Roseberry Gardens till Tompkins is off in the mornin'."

The young secretary laughed and pulled a bunch of lists from a drawer.

"Tell me about these, Michael."

They were orders to be given to the different foremen. Michael drew out a case and put on large steel spectacles. She held up one for his scrutiny.

"Pete?" inquiringly. He shook his head. "He's not sinse enough for that. Give that to O'Malley. Here!" He took the lists in his hand. "This, and this, and this—that'll keep him busy."

He sorted the orders carefully and slowly according to the intelligence required and convenience in digging.

"We must send a man to-morrow to do planting at the Babies' Home," said Roberta. "Who's the one to send?"

Michael puckered his lips a moment then his face lightened.

"Brian," he said, "sind Brian. 'Tis a foine lad he is and knows the plants well, but he can't keep from the dhrink. 'Tis a pity a man would wish to take leave of his sinses for the sake of puttin' things down his t'roat! Sind him! 'Tis only milk and infants' food he'll get and not a dhrink wit'in ten miles! 'Tis just the place for him."

The girl clipped the lists together in accordance with Michael's suggestions, initialed them, pushed the order-book aside.

Michael picked up his felt hat, started to go, then suddenly turned.

"I was forgettin'!" he exclaimed. "I know ye had to go in airly yesterday about that shipment, but 'twas a pity! Mister Herford, Mr. Maurice J. Herford, was here?"

"Was he?" asked Roberta carelessly.

"He was that! An' so dissap'inted at not gettin' a sight of yez, he c'u'd buy nothin'—nothin' at all, at all!"

Roberta's eyes laughed. "Too bad!" she said.

"Yes, so I thought. It wint to my h'arrt to see my little man so disapp'inted-like, so I tuck him out to the houses, an' I showed him the *Magnolia paviflora* you was forcin', an' I gave him wan branch. I said I knew—" he smiled beamingly—"you was forcing them for him, knowin' his intrust in magnolias."

"Michael!" exclaimed the girl, "how could you!"

"How c'u'd I not?" he demanded. "There was the foinest little man that comes out to Roseberry Gardens. How c'u'd I let him go home so forlornsome and lookin' like there was nothin' in life at all, at all? Don't ye give a flower to a b'y or girl in the street that looks hungry for it? An' if so little a thing w'u'd make a man happy, 'tis not yerself, Miss Davenant, that w'u'd have the h'arrt to refuse!"

Roberta laughed helplessly.

Michael was already disappearing. Left alone in the dingy office, a look of vexation clouded the girl's face, then she laughed. One couldn't get really cross with Michael. She looked at the clock.

"Eight," she said. It would be an hour and a quarter before the coachman would bring Mr. Horace Worthington and the mail. She took her hat from the nail and went out into the gay May morning.

On one side of the office was a wide plowed field, in which the men were preparing to plant corn, to give the land its sabbatical year. Perched on the fence was a solemn row of blackbirds, waiting for the sowing to begin—all with their eyes on the furrows.

But she went the other way, past the rows and rows of dogwood whose petals were beginning to open. The red flowering ones looked as if a flock of scarlet butterflies had just lit on their dark branches. Through the arched gateway in the hemlock hedge and along the broad grass path she went. Down the path she had caught sight of Mr. Trommel, basket on arm, bending over the gorgeous azaleas.

"Good morning, Uncle Rudolph!"

"Good morning!" he responded. "You can help me a bit, I think. What iss the color?"

He clipped off a blossom and held it up. She looked at it critically.

"The petals are rose-color and the buds garnet. I think I should say just that. You can't make a mixture of the colors. They aren't mixed; they're distinct."

Rudolph nodded "good" and wrote with a cramped hand on the label, repeating as he wrote. "Garnet unfolting to pale rose," then twisted the wire around.

"Und this?"

It was hard to tell; the petals were salmon infused with pale gold.

"What is it's name?" she asked.

"Three-hundred und forty-four."

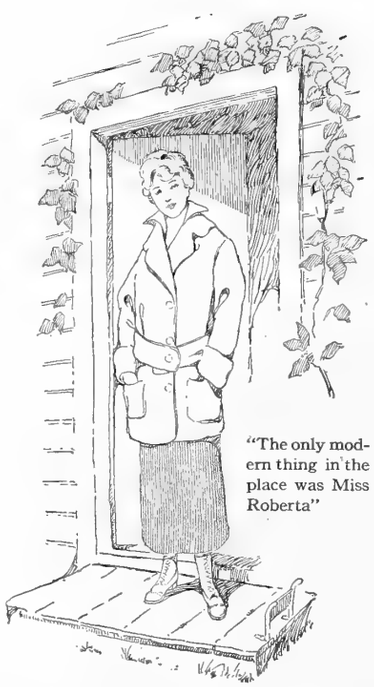
"Sounds like a prisoner," she said, "or a ward patient! It should have a better name than that!"

"You can name it," he said, "it iss mine. It iss one of the new seedlings. It iss hard to find names for all the children. Take it!"

She took the flower. "It looks like the sun shining through in the morning more than anything else," she said. "Perhaps I'll find a name, but I must go now, Uncle Rudolph; I've a list for Peter. I have to go down to 'End Entirely.'"

She went quickly down a broad grass path, through another gateway and into the drive again. It was not a wide one; on each side were tall, close-clipped hemlock hedges that stretched straight to the bordering line of woods, where the drive ended in a circle. This was what Michael called "Entirely." "To be sure," he said, "'tis the 'End Entirely.'" To Roberta's mind there should have been a statue or a fountain or a pool at the end of the driveway; the straight hedges, the blooming trees that reached above it and the dim woods that ended it seemed to demand such a terminus. Instead, at the end of the stately drive, was an unnoticed opening which led to the unpretentious establishment of Washington Jones, the well-tempered Negro teamster.

Roberta walked quickly and happily, swinging the azalea between her fingers, looking up again and again at the late Magnolia Lenné that held up great wine-colored chalices to the morning sun, and the blossoming pear trees. For on the other side of the hedge pear and peach tree stood row after row in brilliant flower while here and there a crimson peach showed vivid against the dazzling whiteness as a scarlet tanager against a snowbank.



"The only modern thing in the place was Miss Roberta"

Unconsciously, she began to hum an air and then sang in a clear young voice, light and rather delicate but true.

"Faites-lui mes avœux, portes mes vœux
Revellez a son âme,
Le secret de ma flamme
Que mon cœur nuit et jour—"

She stopped suddenly.

Just at the opening of Washington's private road, which the widening of the hedge had concealed, stood a tall young fellow, sketch-book in hand, soft felt hat pulled down over his eyes. He had on brownish, loose-fitting clothes, but she noticed only the dark gray eyes and the shock of light hair.

He pulled off his cap quickly. "I hope I'm not trespassing," he said.

"No," she answered, "not unless you break branches or pull up plants."

"It was so like an English garden," he said, "and I had to have a bit of an English garden. I wish I hadn't stopped the song!"

Roberta did not answer.

"Look!" she said, pointing to the blossoming tree that reached over the hedge opposite. A brown thrush flew from the hedge top, lit on the very tip of a blossoming branch, poised himself, swaying with the branch his own weight set in motion. The two watched in silence; then came a strain of exquisite song, clear and high. A moment later and it was repeated. "I *hoped* he'd do that," she breathed, then laughed softly from sheer happiness. "How perfect!" she said. "He sang it 'twice over' for you, too! There's 'England in April' and if you want the 'elm tree in tiny leaf,' it's down yonder." No one but Robert Browning would have remembered how the thrush loves the top of a spray and loves to swing, like the bobo-links do on the tops of the tall grasses.

"It was perfect," said the young fellow softly. They waited, but the thrush didn't sing again; instead he flew to a more distant pear tree.

Roberta came to herself. Perhaps a thought of Aunt Adelaide flashed across her mind, and her probable opinion.

"I must go. I am quite sure you are not trespassing," she said formally, "but it might be well to stop as you go back and ask Mr. Worthington's permission. He would prefer it."

She nodded slightly, turned, and disappeared past the hedge and among young dogwoods.

Paul Fielding looked after her, but she had vanished. He turned to the hedges and blossoming trees.

"Lordy! but that was pretty," he said. "I wonder who——" He tore up his sketch and began working rapidly, sketching, suggesting, the hedge and the flowering trees and against the hedge was a girl's outline with a splash of copper-color where her head should be.

Meanwhile, Miss Davenant was walking swiftly along a narrow foot-path that skirted the oak woods. She looked back. No one was in sight. Then she began running, lightly and easily with the sureness of an Indian, until the path ended at a wagon track. Flushed and breathing quickly, she stopped running, put up her hand to her hair, the immemorial feminine gesture, for was she not nearing Peter's "gang" and the secretary to the head of Roseberry Gardens must be dignified as befitted that ancient place? Presently she saw the men.

One of them, evidently the head workman, left his group and approached.

"Good morning, Peter," she said. "It's just a few things for an order of Brian's that are over here." She handed him a slip. "Bring these over and mark them for him. That's all."

"It was too pretty an errand for Barney," she said to herself as she turned away, and walked down the wagon track which was a short cut to the office. It was a lovely bit of road. There were violets in the grass alongside and wild growth of young oak and maple and witch hazel arched the narrow road overhead. Presently she stopped, listening. There was the thrush again.

"I oughtn't to have spoken that way without an introduction," she said to herself, ruefully. "I wish I didn't do things first and think afterward! But it was the thrush's fault!"

CHAPTER VI

Promptly at 9:15 every morning Mr. Horace Worthington's coach, driven by a frosty-haired negro, Peregrine Pink, drove up to the office door.

"Whoa-dar!" the young secretary would hear through the open window in tremendous tones. "Whoa-dar!" and Peregrine would rein in the placid, leisurely gray horse as fiercely as if he were a battle-impassioned stallion and Peregrine himself a cavalry officer.

Then the office door opened, Mr. Worthington would come in, glance at the clock, compare it with his watch.

"Dear me! I must speak to Peregrine; he is invariably late."

But by that time Peregrine had driven off, breathing a bit hard from the late excitement.

Peregrine's instructions were that he should be at the Worthington residence at a quarter of nine. But whether the old darkey were dilatory or whether he held a firm opinion that nine o'clock was

"Just at the opening . . . stood a tall young fellow, sketch book in hand"

too early for Mr. Horace Worthington to be at his office, it would be hard to say; but never, during the past five years, did he appear at the Worthington house before exactly nine. And always Mr. Worthington intended to "reprimand Peregrine."

Mr. Worthington was not at all successful at reprimands; either he postponed giving them or they missed the mark and went harmlessly over the head of the offender.

"Patrick," Roberta heard him say to an aged workman who had done exactly the opposite of the instruction given, "it seems to me that if there is an erroneous method of work, you invariably choose it!"

"Yis, sorr," responded Patrick with contented pride, "oi do that!"

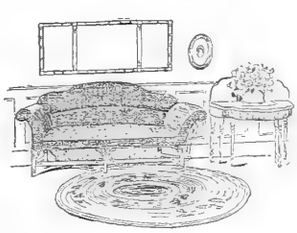
Mr. Worthington was a bachelor of seventy, with the serenity and benignity that seems to come to many men who have lived their lives among plants: for gardens have a way of blessing those who really love them.

He was a scholarly old gentleman. He liked to quote Horace and Ovid, and would repeat line after line of Homer because he liked the music and sonorousness of the old poet. He read Sir Thomas Browne. He never could plan an orchard without associating it, in his mind, with Sir Thomas Browne's adored quincunx—the quincunx which, for the exquisite old prose-poet, seemed the quintessence of garden symbolism. As a young man he had travelled extensively, not only on the Continent, but in Russia, and Japan, which then was an almost unknown country. He knew the Kew Gardens almost as well as he knew Roseberry Gardens. And in landscape gardening he swore by Repton and by Le Nôtre.

Yet with all his love and feeling for antiquity, for the beauty and charm of the older gardens, in horticulture and horticultural experiment, he was not so much intensely modern as he was a futurist. For to be modern is to be mentally in the fashion, and merely to echo the thought and feeling about one—an easy and unimportant thing to do. Horace Worthington was a futurist. As early as in the '40's he was writing of city playgrounds for children, of roof-gardens where plants might really be grown, of house-top conservatories, things which to-day, some seventy years later, are matters of "modern experiment."

He wished to see a winter garden in the heart of the city—an entire block devoted to it, the centre a great glassed in space, with no extra heat but what the sun through the glass afforded. The outer edges of the square would be art-shop, florist shop, curios and others attracted by the charm of the situation. Here would be, not hot-house plants, but grown as in the open those not quite able to stand a northern winter—camellias, Indian azaleas, tender rhododendrons, the Southern jessamine. Here might the aged and convalescent sit and sun themselves and watch the busy life go by and drink in happiness. In summer, the glass would be removed and it would be a Public Garden.

But when he wrote of those ideas to the papers in rather flowery letters signed "Agricola," he was accused of getting his ideas from Nineveh and Babylon, of being so steeped in his beloved ancients that he was "out of touch with modern life." Worthington was considered old-fashioned, a sentimentalist and a dreamer about gardens.



"Inside the house had changed as little as the outside"

Because a thing had never been done, and was not horticultural usage, was no reason why it shouldn't be done. Because a plant "couldn't be grown in this country" was no reason why it mightn't thrive at Roseberry Gardens.

And if, in his mind, the experiment of the Arabian gardeners centuries and centuries ago with the traditional "blue roses," the supposed origin of the yellow roses linked themselves with the present way of encouraging the blue tint in Hortensis hydrangeas by iron filings in the soil, he would consider the Arabian gardener a fellow experimenter, animated all those years back with the same passionate interest in a plant's possibilities. He, too, had lived in the future.

So where other horticulturists were content to import new or unusual plants, Horace Worthington was never content until he could grow them and grow them easily in the Roseberry Gardens with no more than the customary amount of care. Wherefore, instead of importing plants, he imported Rudolph Trommel, whose interest in experiment was as great as his own.

Horace Worthington had the theory that, although it was possible to modify the soil, it was not possible to modify the climate, but that the plants themselves could learn to suit it. That if a plant could, by coddling, be brought through safely, the second or third generation might endure the climate without coddling.

Because he believed in the climatic similarity, Japan and Japanese horticulture interested him greatly. He had met Siebold, the German botanist; he knew well Dr. Hall; and it was to Roseberry Gardens that Dr. Hall brought the exquisite Japanese flowering apple, known first as *Malus Halleana*, now as *Pyrus Malus*, var. *Parkmanni*.

He and Rudolph Trommel would hold in the private office long and animated conversations, chiefly about rhododendrons, of which Roberta could not help but hear fragments.

"It is the *climate* that makes the difference," Mr. Worthington would say. "It makes the difference in races and in plants. Give Labrador the climate of Equatorial Africa and you will have tropical vegetation. It is our climate that strains the English rhododendrons; the peat soil or not has little to do with it. The extremes and sudden changes tax the root system, and that is why a native rhododendron has twice the spread of roots that an English one has. It needs them."

"That may be so," assented Rudolph Trommel.

"If we can develop a good root system, we have it! Peat does not encourage a large root system and demands much moisture; we must try it without peat, and with no surface watering. If we get the resistance of the Catawbiense, with the fine color, it will be an achievement!"

"It iss possible," said old Rudolph,

who rarely was worked up to the same pitch of enthusiasm as Horace Worthington.

"Possible!" the old gentleman would say in a glowing voice, "it can be done! We can have the color of the hybrids and the hardiness and ease of culture of the common privet!"

"But we need a hedge plant, Trommel! Something that will be in America as the yew is in England."

For Michael O'Connor, Mr. Worthington had an affectionate and amused tolerance. He had tolerance and something like real pity for Henry Stirling, painstaking and hardworking and absent just now on business. Poor Henry! He had no feeling for the beauty and poetry of the business; it was all sizes and prices and quotations. It could no more be helped than blindness! He liked Roberta. He liked her color in the dingy office, very much as he liked the color of the azaleas; he liked her eager interest in the plants and he used to lend her books—Repton, and Gilpin, and Evelyn's Diary, and a fat, comparatively modern book, "L'Art de Jardin," of Andre's (for its excellent account of Le Nôtre) also Robinson's "English Flower Garden" with the caution that he was a bit gone mad over the "naturalistic" and she must not believe him too completely.

And Roberta used to take them home to the old house until Aunt Adelaide became quite wildly interested. She used to read them while Roberta was at the office. She liked particularly the elegance of the Le Nôtre gardens, and William Robinson and the emphasis he laid on gardening being so lovely and suitable a concern of woman. She first began to be relieved that Roberta was interested in something so safe and womanly, and then she grew interested in her own account.

Mr. Worthington's usual programme, after his glance at the clock and his threatened reprimand for Peregrine, was to hand to the young secretary part of the mail and retire into his private office with such of the letters as interested him or needed his attention. After an hour or so he would dictate a bit, and then go out to see the azaleas or some other plants in which he was engrossed, walk about the gardens and survey the work.

He had been gone but a short time when the door opened and on the threshold appeared Paul Fielding, his shock of yellow hair bared to the morning sun.

"Is Mr. Worthington in, and may I see him?" he asked.

Miss Davenant looked up from the pile of orders she was copying rapidly, flushed a little, for she flushed rather easily.

"He has just gone out," she answered, "you'll find him in the azalea plantation."

Young Fielding thanked her and withdrew. But she heard more of him later.

"I met a most estimable young man," Mr. Worthington reported when he came in at almost noon, for Paul had evidently found him, "young Fielding, a son of Major Carlton Fielding of South Carolina, the Fieldings of "Paradise Park" on the Cooper. It was his great grandfather, Carlton Fielding, who brought over the first Camellia japonica, and was very well known at Kew. The largest specimens of Camellia japonica in the country are at Paradise Park and this young man says the original plant is still living, a hundred and fifty years old. Very interesting."

"Also, he tells me, that his father has naturalized the Indian azaleas at Paradise Park. The young man is interested in landscape gardening and wishes to learn our Northern plants; his father advised him to visit here. So, if you will tell Michael and the other foremen to afford him any information possible, we shall be doing our duty by him. So few of the young men now-a-days have any interest in plants!" sighed Mr. Horace Worthington regretfully.

Miss Davenant heard more of the young man later, when Michael O'Connor came in at noon.

"Who's the lad the boss says we must lind a hilpin' hand on the path av' larnin'—him that was here this mornin', leggy as badly grown Rose of Sharon, wid the hair like a corn-shock?"

"Mr. Fielding," she answered, "Mr. Paul Fielding of Paradise Park, South Carolina, whose great-great-grandfather imported the first Camellia japonica."

"He did, did he?" questioned Michael, "And what's to become of my little man? The foinest man at buying camellias that America has projuced?"

Roberta laughed. "I don't see how anything can happen to Mr. Herford, Michael, so long as you take such care of him."

"'Tis well I do," said Michael, "but what's the long lad doin' here?"

"He's been studying landscape gardening and wants to learn plants."

"Larn plants," repeated Michael. "If he spiles things for my little man, I'll larn him," he said grimly.

CHAPTER VII

IF PEREGRINE PINK had a poor sense of time, Mr. Maurice Herford's was marvellously acute.

Exactly at 4:30 Mr. Horace Worthington was driven home. Miss Davenant stayed usually until nearly six. She liked having the place to herself and getting the work arranged clearly for the next day.

Rarely did a customer come late in the afternoon, for folk who came to Roseberry Gardens came usually expecting to spend an hour or so among the plants and came earlier—all except Mr. Maurice J. Herford. Exactly five minutes after Mr. Worthington's carriage had rolled down the road toward the village, Mr. Harford would appear coming along the side road from the direction of the Philadelphia turnpike.

Mr. Herford was an old friend of Michael. "'Tis twinty years," said Michael, "since Mr. Maurice Herford's been comin' to Roseberry Gardens and twice the season, and he's bought well from the first. Says he, 'There's no place I'd rather be: and if I had the sinse to do the wor-rk', says he, 'I'd ask f'r a job to-morrow.'"

Maurice Herford was wealthy—very wealthy—a bachelor of forty odd and a man of leisure. He travelled every summer and belonged to one fashionable and exclusive club in the city, but that was all, for he had an intense love for plants. Precisely what the bond was, it would be hard to say, but the wealthy recluse really loved Michael O'Connor. I believe his most vivid happiness was to come out to Roseberry Gardens, walk about the delightful old place and sit by the greenhouse benches and talk with Michael O'Connor of plants, or of Irish politics. Intensly "Home Rule" was Michael, and it was but little use he had for the English administration.

"Idle ould woman!" he would say of the late Queen Victoria.

"'Tis an idle ould woman, she is, wid a large family! And by and by a little juke is born somewhere off and thin—does he airn his living? Is he thrained to a trade, seeing that the job av King av England is far from him. Not at all—at all! As soon as iver he is born the poor Irish is taxed for his maintenance! And thin, there is another little juke, for ivry wan of the ould woman's children has children a-plenty, and again the poor Irish is taxed.

"Of what use is it? 'Tis better to support a President and a District Leader, for the District Leader is Irish, an' 'tis the Irish come in on some av the jobs inst'id of exclusively on the taxes."

Michael could never be done talking of the charms and virtues of his adored Maurice J. Herford.

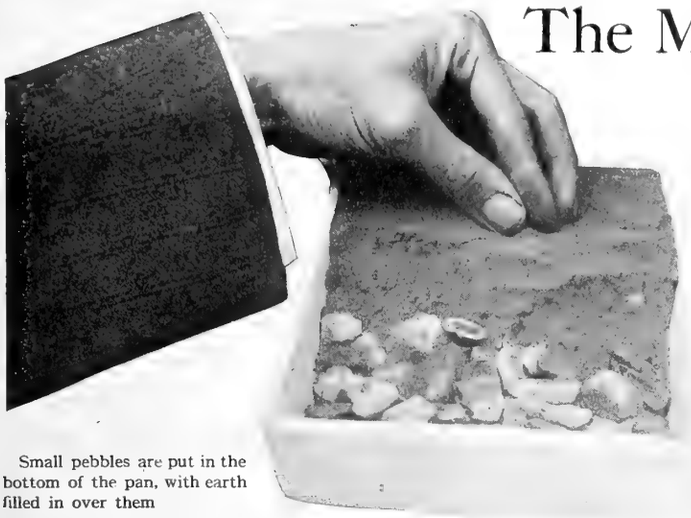
"Foinest little man that ever was," Michael would say. "'Tis twinty years that he's been buying plants here. Twice a season he used to come. 'Tis twice a week since last September. There's no wan buys like him.

(To be continued)

The Making of Miniature Gardens

By S. Leonard Bastin

AN INDOOR SUGGESTION FOR THE CHILDREN IN THE WINTER MONTHS—THEIR POSSIBILITIES AS TABLE DECORATIONS



Small pebbles are put in the bottom of the pan, with earth filled in over them

A MINIATURE garden may well be made an excellent object lesson to the younger members of the family especially in the winter time when there is little doing out of doors. I have constructed a numbers of these gardens and it may be of interest briefly to outline the method of procedure. In the first place it is necessary to secure one or more flat dishes, made of some glazed ware. These should be quite shallow, about a couple of inches in depth perhaps, and may be square or round or indeed any shape that suits the fancy. As a matter of fact ordinary photographic dishes have been found to answer all the requirements, and as these are cheap and may be readily secured in all sizes they are to be strongly recommended.

The first step in the formation of the garden is to cover the bottom of the dish with a layer of pebbles. These should be small clean stones such as are obtained from the bed of a stream, or indeed may be purchased from a florist's store where they are offered for use in the culture of narcissus bulbs. Next secure a quantity of fine mold; this should be quite free from lumps and it is well to pass it through a sieve before use. It is perhaps most easily handled if it is in a dry condition. The layer of pebbles being in position, the mold is placed in the dish and with the fingers is firmly pressed down, so that the dish is about half full. It is now just as well to form some idea of the exact design which the garden is to follow. a glance at the accompanying pictures will perhaps give more hints in this direction than could be conveyed in lengthy descriptions. A few general remarks, however, may be useful.

One important point which should be mentioned is that, in the case of the "rockwork" it is inadvisable to use real stone. In all the gardens shown in the photographs this particular part is formed of pieces of wood, save where a few small pebbles have been added to give an effect. Chunks of wood, such as are often used for burning purposes, are of great service especially if these are in a somewhat rotten condition. The comparatively soft material is readily cut with a knife into a shape resembling a piece of "rock." In this state wood is an admirable medium for holding the moisture and, in a wonderfully short time it will be found that all sorts of mosses and little plants may be established. It is well to put the rocks into position when the dish is half full and, as this is accomplished, the soil is pressed tightly round the pieces of wood until the receptacle is full to the brim. If liked, little model wooden houses may be added as shown, and paths of small pebbles could be put down to enhance the effect. Where there is room a pool may be introduced and this will form a very attractive feature. The pool might be formed with a tiny dish or a tin lid, or a little piece of mirror could be used to give the impression of water.

The planting of the garden is a matter in which indivudial taste must of course operate. The plants most suitable for these miniature gardens are those of a moisture loving habit, such as mosses, tiny ferns and any small creeping species which would not be likely to be rank in its growth.

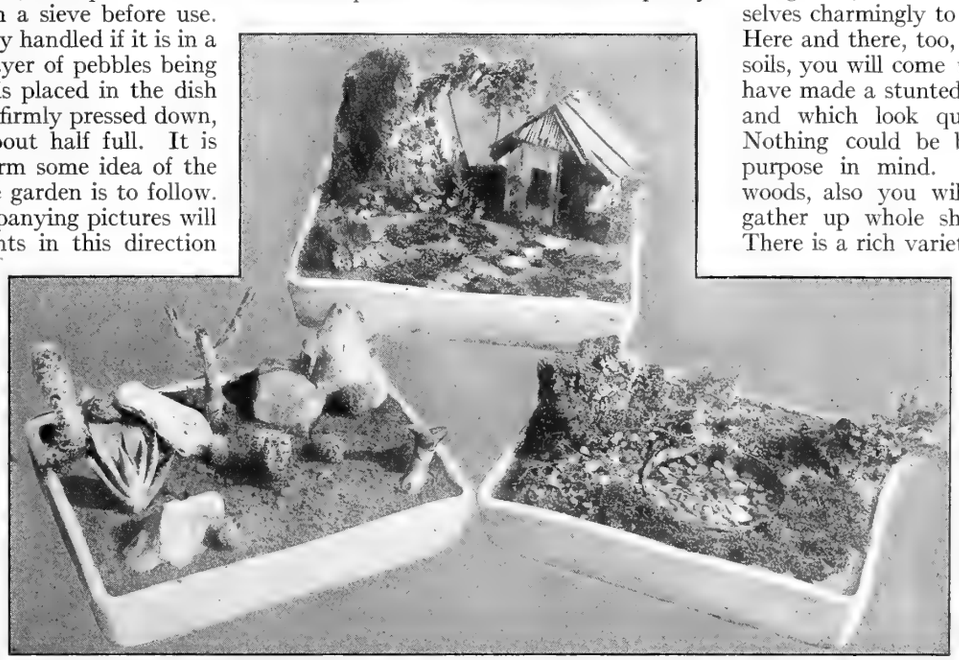
Before planting the whole of the soil should be quite saturated with water, and until the specimens have taken a hold plenty of moisture must he supplied. Little niches should be cut in the wood "rockwork" and in these small portions of mosses, etc., are inserted and if the wood is kept in a damp condition the plants soon grow. Low growing forms of mosses if placed in tiny tufts on the surface of the soil soon spread over the entire area and will form the "grass lawns" of the little garden. Now and again the seeds of the smaller grasses may be sown as seed to give a little fresh greenness.

The general upkeep of the miniature gardens consists in placing the dishes in a fairly light position, though it is well to avoid direct sunshine. A good supply of moisture is necessary, though if the growth of the tiny plants threatens to become rank a certain withholding of water is desirable. On occasion, too, a little gentle pruning of the more vigorous growth will help to keep the garden in an orderly state. Duties of this description will of course add to the pleasures of looking after a miniature garden. One of the most useful purposes to which the little gardens maybe turned is in schemes of table decoration. Of course for this the somewhat large sized gardens are the best seeing that they will occupy a greater space. The borders of the dish may be readily hidden with layers of moss. If it is desired to keep this material from coming into contact with the linen cloth the whole affair may be arranged upon a large tin tray.

AVAILABLE MATERIAL

As soon as you begin to make these miniature gardens, you will be surprised at the rich variety of material that is ready to your hand. For instance, go into the woods and gather up some of the seedlings of the evergreens; in their variety they lend themselves charmingly to this kind of decoration. Here and there, too, in the dryer, less fertile soils, you will come upon older plants that have made a stunted and distorted growth and which look quite Japanese in effect. Nothing could be better adapted for the purpose in mind. While you are in the woods, also you will probably be able to gather up whole sheets of mossy growth. There is a rich variety in the mosses, alone, which used on a miniature scale will easily lend a variety of color and structure that is very interesting.

An entirely different character of garden will be constructed by the use of small cactus, which again offer an endless variety. The smaller bulbs can be used in this connection to give brilliant color effects.



The little gardens can be made up in an endless variety of styles and are appropriate for table centre pieces

Fresh Vegetables All Winter—By F. F. Rockwell, Connecticut

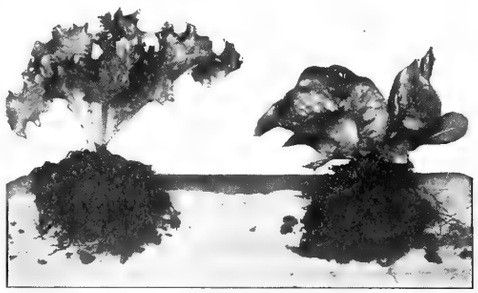
MAKING REAL USE OF THE LIGHT COOL AND SMALL GREENHOUSE—EASILY GROWN CROPS THAT WILL KEEP UP A CONSTANT SUPPLY UNTIL THE SPRING GARDEN SETS IN

AT LEAST some of the fresh vegetables which winter gardening makes possible should be enjoyed by every possessor of a greenhouse, no matter how small it is. Any one whose gardening experience has been confined wholly to crops out-of-doors will be surprised at the very small amount of space required to furnish the average home table with such fresh vegetables as are usually forced during the winter months. Take lettuce, for instance: in the garden, under what you consider intensive cultivation, you plant it 12 inches apart each way—144 square inches to a plant. Under glass, it can be grown as close together as 6 inches each way for the loose leaf kind, and 7 x 7 inches for the heading sort—36 and 49 square inches, respectively! At the former distance, on a bench space only 3 x 6 feet, seventy-two heads can be grown. True, for commercial purposes, these distances are usually increased an inch each way; but, where the crop is to be used for the home table, and where every other head can be taken out, before they are quite matured, the distances named are ample.

I have grown tomatoes successfully as close together as 18 inches each way; and in a small greenhouse, where many flowers are grown, and where space is not available for tomatoes, I have seen them grown successfully in wooden boxes about 15 inches square and 8 deep, which were placed upon the floor in positions where the vines could be trained up. They were, of course, trained to a single stalk and a great deal of the foliage removed in both cases. Cucumbers may be handled in much the same way. Where forced commercially, they are usually given at least 8 feet of head room, but it is possible to grow them on a side bench within two feet or so of the glass, the vines being trained on heavy string or wires run some 6 inches below the glass and supported from the sash bars. Half a dozen vines, with good results, will yield a generous supply of cucumbers at a time when a single one is prized.

Radishes mature so quickly where they are given ideal conditions that they may be used as a "catch" crop between other vegetables, or a short piece of row 2 or 3 feet long sown every week—the rows need be only 4 inches apart—will keep the table supplied with delicious, crisp roots.

In achieving success with vegetable forcing in winter, nothing is more important than the selection of suitable varieties. The loose leaf type will do better than the head lettuces, and for winter use, nothing is superior to Grand Rapids. It not only takes less room than a heading sort, but matures in a shorter time, can be eaten at any and every stage of development and is the healthiest and easiest to grow of any lettuce I have ever tried under glass. If, however, you *must* have a head lettuce, there is none superior in quality to the little Mignonette, and it can be planted as close together as 6 or 7 inches. Other sorts that can be used, however, are Hitinger's Belmont, Hothouse, Boston Market, and Big Boston, the last thriving well in a cooler temperature than that required for the other sorts, except Grand Rapids.



Once transplanted lettuce plants ready for permanent beds

In December or January start tomatoes and grow on in pots until bed or bench space is available

Cucumbers just beginning to run. Lateral strings are tied across the heavy cords shown to form a supporting network for the vines

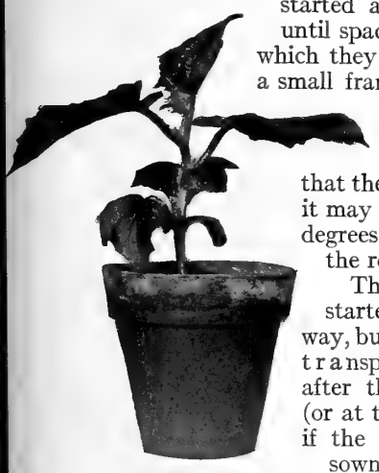
Of radishes which can be grown in the same temperature as lettuce, Rapid Red is one of the earliest and best of the small or button type. Personally, however, I prefer Crimson Giant, a sort which, while it does not mature as early as many others, is large enough to eat as soon as any of them and retains its good quality until it attains large size. Comet is a good tomato for inside use; the fruits, while not as large as those grown outside, are specially pleasing in appearance and are superior in quality. Bonnie Best and Chalk's Early Jewel I have also grown successfully inside. The English varieties of tomato are especially grand grown under glass. Of cucumbers, Davis's Perfect and Vickery's Forcing are both excellent kinds. Telegraph and Sion House are proved varieties of the English cucumbers, which grow to a much greater length than the American sorts and are generally considered to be of much superior quality. Of beets, Early Model, Eclipse, and Crosby's Egyptian are good for forcing, but the latter, although it is still a favorite variety, I do not consider equal in quality to the others. Among carrots, Early Scarlet Horn, French Forcing and Nantes are good. If growing only one variety, I should plant the latter as some of the roots will be ready to use almost as early as some of the other sorts, and those remaining as the rows are thinned out for use will continue to grow. If you want to try beans, grow a first quality early sort, such as Early Bountiful.

After settling the question of varieties, there are, of course, the details of temperature, ventilation, fertilization and so forth, which have to be looked after with each of the several crops that have been mentioned.

As I have already said the loose-leaved lettuce is more certain to give satisfactory results under glass than the heading sorts. There is, however, no reason why you should not succeed with the latter if you like it enough better to pay for the extra care required. Greater care in watering will be necessary, especially after the heads begin to form. It is best to apply the water to the soil only, and to water on bright days, so that the surface of the soil and any parts of the foliage which have become wet may be dried off before night. During the larger part of the development of the plant a temperature of 45 to 50 degrees at night should be maintained, but just after setting the plants in the bed and while the heads are forming about 5 degrees less than that will be safer. Both Grand Rapids

and Big Boston will do well with a temperature of 40 to 50 degrees throughout their growth. For quick results with lettuce *now* you should buy plants from some neighboring florist or market gardener, or they may be had by mail at very slight expense. The plants are transplanted once before being set where they are to mature, thus securing a saving of space during more than half their period of growth. A small flat of seeds or a couple of feet of drill along the edge of a bench planted now will give you enough plants to follow up the crop which you set out at this time.

December and January are the months in which cucumbers and tomatoes are generally sown, so they can be used to follow the lettuce when the strengthening sunshine and the warmer nights makes it more feasible to maintain the 60 or 70 degrees at night and the 80 to 90 degrees during the day required for the best development of the plants. If the greenhouse is so small that there is no separate warm section in which these things can be started and brought on until space is available in which they may be set out, a small frame on the order of a coldframe may be used *in* the house so that the temperature in it may be carried a few degrees higher than in the rest of the house.



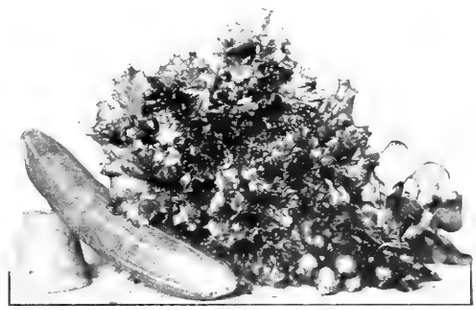
Cucumbers started in pots will produce fruit in a few weeks after being set out

The tomatoes are started in the usual way, but at the transplanting after the first (or at the first if the seed is sown very thinly so that extra, strong large, seedlings may be attained) the young plants may be put into three or four-inch pots, and after they have filled these, which will be in the course of two or three weeks if the conditions are right, they may be shifted into a size larger if bench room is not yet available for setting them out. An abundance of well rotted manure and a little fine, bone meal should be mixed with the potting soil. If paper pots instead of clay are used, it will be a much easier task to keep them from drying out. As cucumbers are difficult to transplant unless one has had experience with them, it is best to start a few seeds, not more than four or five, in each of the required number of paper pots, and after these are well up, thin them out to not more than two. They should be given plenty of light and kept as near the glass as possible so that they will not become drawn and weak. A rich compost with a layer of fine manure at the bottom, if used in the pots, will give the plants a strong start in the few weeks' time they have to get ready for their permanent position.

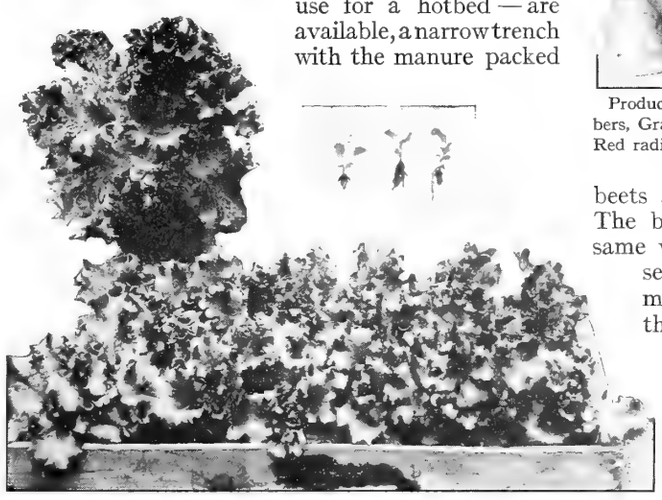
This 4 x 4 ft. bench in a sash covered leanto with door opening into the cellar will furnish enough lettuce for the average home table

When the plants are ready to be set, and a solid bed and manure that is still actively fermenting—such as you would use for a hotbed — are available, a narrow trench with the manure packed in tight at the bottom under the plants will give them an extra start after transplanting. Where this method is not practicable, make a generous hole for each plant enriching it well with either fine, short manure or a good handful of a mixture of cotton-seed meal, bone-dust and dried-blood or tankage. Keep the plants carefully shaded for a few days after setting them out. Under these congenial conditions, both tomatoes and cucumbers will make a very rapid growth. Training should be attended to carefully and constantly. All side shoots should be removed from the tomatoes as soon as they are big enough to pinch out and a large part of the foliage, where it interlaces or shades the young fruit, may be cut out with advantage.

For radishes, beets, and carrots the soil should not be made too rich, especially in nitrogen, as this has a tendency to produce rank growth of top and an inferior quality of roots. I have found that a liberal dressing of unleached wood ashes gives especially good results with these, and a single pailful of ashes goes quite a ways in the greenhouse. All of these things will do well with a temperature the same as that given lettuce. The radishes may be sown in rows very thinly from 4 to 6 inches apart and the beets and carrots from 10 to 12 inches. The beets are generally transplanted the same way as lettuce except that they are set only 3 or 4 inches apart, but they may be grown directly from seed if there is space enough for them. You can grow a row of radishes between the rows of beets and carrots.



Products of winter gardening: Davies' Perfect cucumbers, Grand Rapids lettuce, Crimson Giant and Rapid Red radishes



Grand Rapids lettuce, a reliable kind. Seedlings ready to plant, and ready for table

In growing vegetables under glass, there are a number of things to be attended to that one ordinarily pays no attention to out-of-doors. One of the most impor-

tant of these is fresh air. This is essential not only for keeping the plants in vigorous growth but it is practically a preventive for troubles with insects and disease. While direct draughts, especially in cold weather, should be avoided, ventilation should be given every day and for as long a time as possible without getting the temperature of the house too low. While plenty of moisture is essential, the beginner is more likely to do damage by giving too much of it. The soil should be thoroughly wet just before—or just after—setting out the plants. After that water should be given only as the condition of the soil seems to indicate that water is needed. Water as seldom as possible, but water thoroughly, and if possible only on bright days so that the foliage and the surface of the soil will be dried off by evening. While watering once in several days will be sufficient for a crop grown at a low temperature in midwinter, cucumbers and tomatoes which usually are making their greatest development in early spring when the sun is strong enough to run the house up to 80 or 90 degrees on bright days, often require a good watering every day. Frequent cultivation, whether any weeds appear or not, is just as essential indoors as out.

What is perhaps the most important point of all I mention last for the sake of emphasis—that is—never let a bug appear, or if he does appear, never let him live 24 hours. But prevention is very much easier and quicker than any remedy. Use good strong tobacco dust freely on the soil and about the plant and if necessary on the foliage. If this is attended to, further trouble will seldom be experienced. The green plant lice or aphids and the white fly are the things most likely to cause trouble. If these do appear, spray the former with a nicotine extract (which may be had in a number of readily available forms such as aphine to be used after simply diluting with water); and for the latter use fumigation or nicotine extract for the matured flies and kerosene emulsion—in fact the white fly must be treated exactly as if it were a scale. Examine your plants carefully at least once every week, as these like other insect pests, are inconspicuous when they first put in their appearance and keep out of sight until they have mobilized large armies of descendants.

The Gardens of the Panama Pacific Exposition

By G. B. Furniss, California

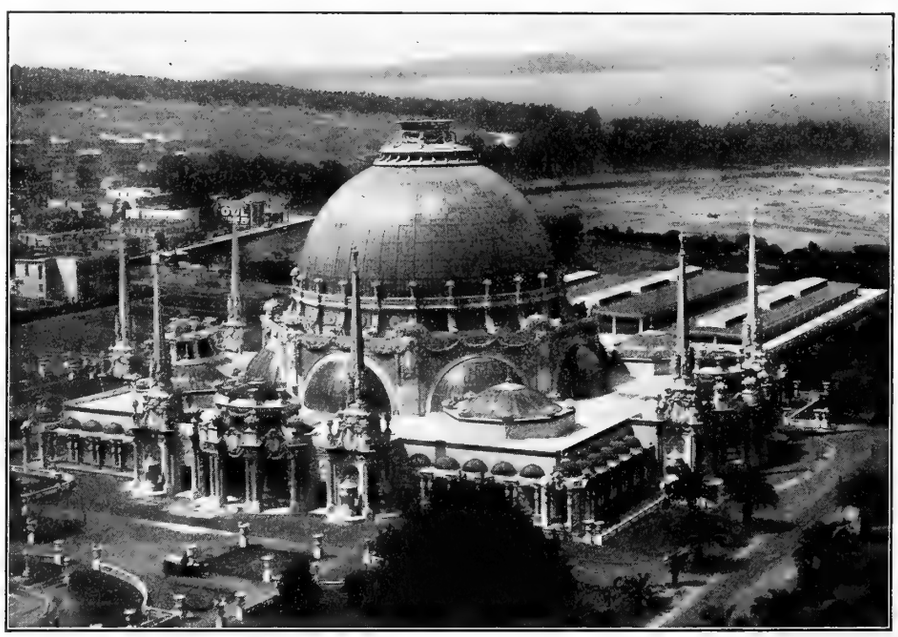
A BRIEF OUTLINE OF THE LARGE UNDERTAKINGS FOR THE GARDEN FEATURES OF NEXT YEAR'S EXPOSITION AT SAN FRANCISCO—GROWING FEATURES IN BOXES TO TRANSPLANT BODILY

IT IS a gigantic task. There are over two miles of water front along the shore line of San Francisco Bay. The location is sightly. To the north and east is a panoramic view of the bay with its islands dotted here and there and low receding foothills in the distance. In front is the broad waterway leading westerly to the scenic Golden Gate, the historic and romantic portal of the vast Pacific Ocean beyond. The sunrise and sunsets are radiant with all the colors of the tropics. Much of the land had been filled in by salt water dredgings. This was topped off by tons of rich alluvial earth brought some 90 miles by barge from the fertile valley of the Sacramento River. But little development work could be done because planting was precluded by building construction. This meant that nearly everything had to be done in a brief period just before the opening days. Lawns could be established with California rye grass in six weeks, but shrubs and trees require time. Then again, the standard heights of buildings to first cornice average 60 feet. These walls called for immense trees and high shrubbery as background to give vista and proportion. A nursery was started in the vicinity; 14,000 feet of glass houses was constructed and to-day there are 300,000 plants ready for use! The state was searched for specimen trees. These were carefully boxed. First the earth was cut down on all four sides and boxed in. Several inches were left between the box and the roots. This space was filled with rich earth and watered to encourage side root growth. About six months later the bottom was boxed in. The trees were then lifted by windlass. Gigantic trees have thus been transported by team and rail.

Along the main half mile of boulevard there is a double row of palms (*Phoenix Canariensis*), alternating with California Washingtonian fan palms which look like the growth of centuries. The Canariensis stand 30 feet high with long plume like branches making a 35 foot spread. The Washingtonians tower 40 and 50 feet with majestic spread of fans surmounting massive trunks and weigh 25 tons each. Pink and scarlet ivy geranium, passion flowers, and tecomas have been raised in boxes and trained up between trellis nailed to the sides of the boxes.

Another boulevard is planted to *Dracæna indivisa* trees, 25 feet high. Eucalyptus has been largely used. These make gigantic growth! In two years from seed they give trees 30 feet high! *E. globulus* predominates because its large bluish leaf gives the effect of distance when massed against high walls.

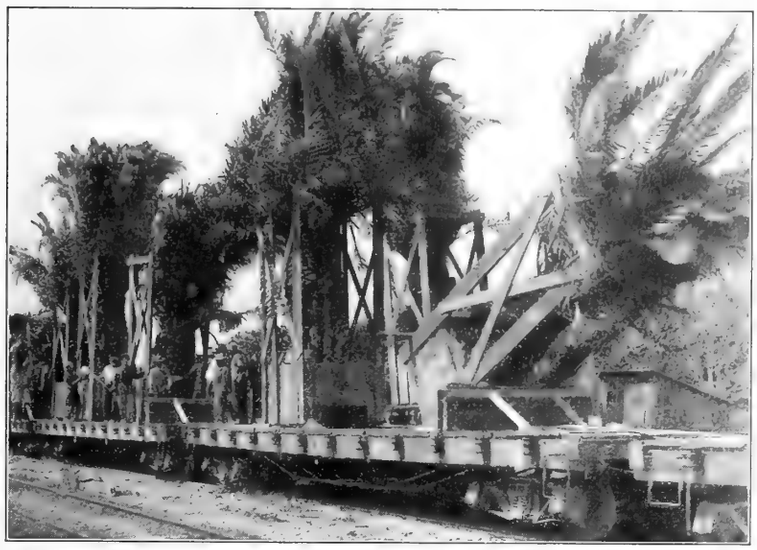
The acacias may be had in successive bloom from winter to winter. *A. Baileyana* with its deep golden yellow and dainty silvery foliage, feathery and finely divided, comes in January. *A. mollissima* with its heavy feathery green puts forth its clear yellow bloom in February. *A. floribunda* blooms through the summer with its bright balls of yellow against bright flat leaves of green, and *A. calamifolia* flowers in late fall. *A. latifolia* and *floribunda* have been raised to standards with round tops 5 feet



The Palace of Horticulture, taken at a point 125 feet above the ground. The building is 600 feet long and 300 wide. The dome in the centre is 186 feet high and 152 feet in diameter. The architecture of the domes and minarets resembles that of the mosque of Sultan Ahmed I. at Constantinople, while the details of the facades, spires and other decorations reproduce the eighteenth century French Renaissance

through, giving the effect of bay trees for use in the courts and in formal work.

To meet the requirement of a long strip of edging, or hedge, a foot high and through *Eugenia apiculata* has been raised and shifted to 18 inch boxes. A tee, or fence of two 4 foot laths, a foot high was nailed across the top of the box and on this the Eugenia has been trained and clipped to shape. The boxes are buried in the ground with the tees butted end to end thus giving a perfect line of hedge. The deep glossy green leaves with myrtle like flowers and dark red berries following make a valuable evergreen shrub.



Large palms are moved by the trainload to give established effects to the Exposition grounds

Another clever conception in the many last minute arrangements is for fences and walls. Boxes 4 x 4 feet and 1½ inches deep have been filled with earth, topped off with moss and over this one inch mesh wire was nailed. In these *Mesembryanthemum spectabilis* has been grown to a solid mat-like covering. These boxes will be fastened upright one above the other like slabs. One of these fences will be 1,000 feet long and 20 feet high. Occasional hosing maintains the succulent growth. The gray color resembles stone and the bright red flowers dazzle in the sun.

Japan has doubled its allotment of land and will follow the characteristic tea garden, with water falls, running water among stepping stones and the strange dwarf shrubbery. A rare exhibit of Iris is promised.

Holland will show a constant bloom of bulbs with a miniature reproduction of a bulb farm with native soil.

The Palace of Horticulture covers five acres. It is surmounted by a dome 160 feet high and 150 in diameter; the largest glass dome in the world.

The Court of Abundance is distinguished by full bearing orange trees. Magnolias and other richly scented trees are included. The Court of Flowers will be tropical in effect, including azaleas and ericas.

In the Court of Four Seasons there will be water effects and a blaze of colors in small plants and large, such as *Bougainvillea Brazilensis* and *laterita* trained on uprights 15 feet high. Pillar roses and rhododendron will also be massed here.

There must be luxury of bloom at all periods during the period of the exposition and as fast as one display is finished, that feature will be taken out and another brought in from the nursery. The plants being all grown in boxes ready for removal. Pansies, California poppies, begonias, fuchsias eight feet high, likewise heliotrope, and hydrangeas with ten foot spread are used in abundance. There will be displays by many trade exhibitors from the east and from abroad. One feature of interest lies in the offer of an award of $1,000 for the best new seeding rose for which entries have already been made by foreign as well as domestic growers; the rose gardens occupy a vast area.

A Three-Year Old Garden of Quick Growers

By A. L. Bright, Pennsylvania

A PICTORIAL AND PRACTICAL ANSWER TO THE GOOD ADVICE THAT WE USE SLOW GROWING, AND WAIT!

THIS is a practical presentation of a successful heresy! Of course, it is sound advice that we ought to plant the slow-growing, permanent trees—beech, elm, and oak—rather than the temporizing transient kind of thing that quickly develops and equally quickly begins to get ragged or decay. But the question confronting most of us is unfortunately: What can be done at once for pictorial effects in the very near future? And I submit the accompanying photographs as justification for what I have done.

This garden of mine is only three years old—not a tree or shrub on the ground before the building of the house. I like yew hedges and spreading beeches as well as most people, but necessity forced me to fall back on the despised privet, and poplar, and rambler roses.

One of Mr. Wilhelm Miller's excellent articles in an earlier issue of THE GARDEN MAGAZINE attracted my attention. His acquaintance with English as well as American horticulture makes his advice the more valued—"I stand for better gardens," he succinctly says—"Surely we have need of a prophet!" In the article to which I refer he strongly advocates the planting of slow growing trees only—and on the other hand entirely condemns "as trash" such old friends amongst the quick growers as willows, poplars, and privet.

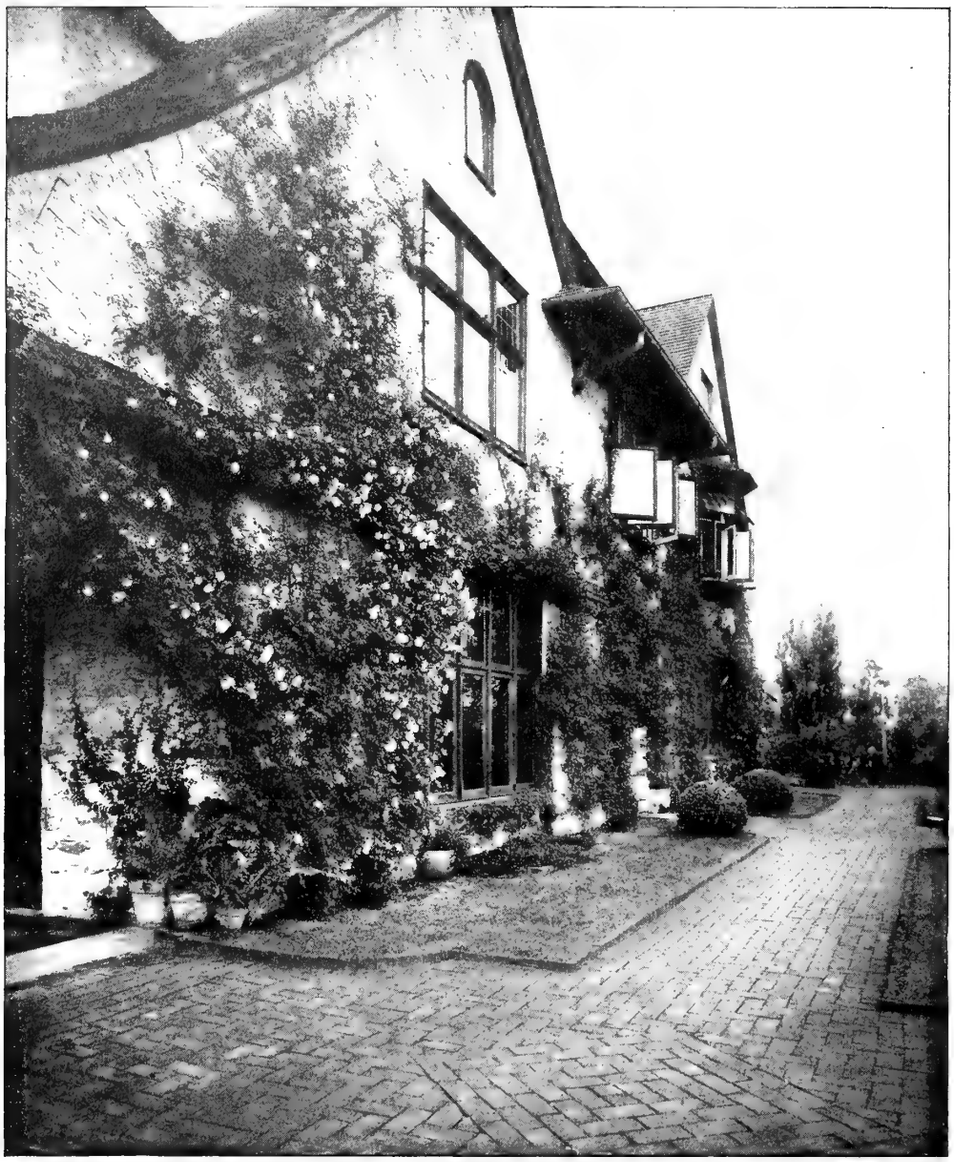
I have spent more than one summer in wandering through the gardens of Surrey and Kent and have often been a guest in English homes, and I think I can appreciate the necessity, with others, for the grandeur and dignity of slow growing trees in our American surroundings. I also feel as acutely as Mr. Miller the want of the beautiful settings and backgrounds one sees in England, such as time alone can achieve in a landscape.

Still, it appears to me, there is a very distinct place in the life of many new American gardens for just these despised quick growing trees and shrubs; and which to ignore, is to discourage many an amateur gardener who is unacquainted with the making of beautiful surroundings except through such helpful sources as THE GARDEN MAGAZINE.

But isn't Mr. Miller a trifle drastic? "Wipe it all out," he greatly argues and start afresh and this time without hampering ideas by Time and Space. For why not plant cedars and oaks—and wait! The privet hedge goes by the board—why not plant a hemlock hedge, and wait again? To be sure in some latitudes the hemlock dies out—but could it not, we are asked cheerfully, be replaced by a planting of young growth around the roots?

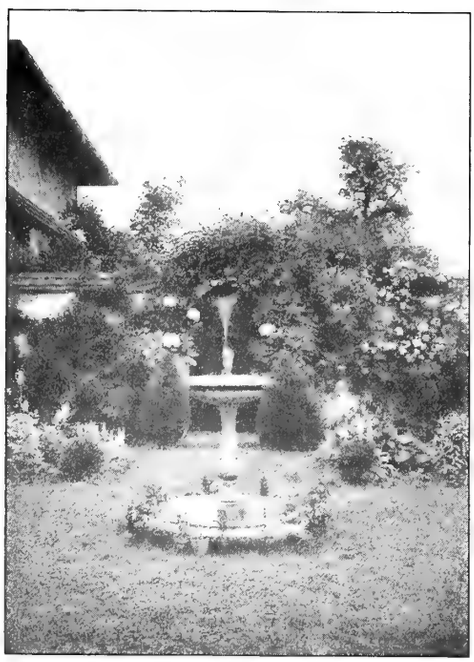
Now he takes for granted two things—that we are all rich—and that we can all wait—while the very contrary is true of most American families.

The making of gardens is of a piece with all the rest of American life. We want it now or we don't want it at all! Our rich men with large estates die—the place is sold—and often cut up into building lots by the encroachments of a city suburb. It is not entailed as in England to the eldest son who puts another wing to the Elizabethan Manor, enlarges the orangery and



sedulously furthers his father's maturing plans. Our code of precedure (if we can be said to have any) can be summed up by "After me the deluge." Division is the general fate of our large places, and often these woodlands and gardens are not enjoyed in the youth of the owner but come rather late in life as a reward of long industry. I know of many individuals who are building beautiful homes in their "Indian Summer" and have only a short few years for the equipment of them—must we then discard the quick growers in preference to watching and waiting for cedars of Lebanon and oaks of Bashan that will never reward us?

We must have a quick effect—let us say in the next three or four years. So we return to the maligned poplar and privet—God bless them! I hold that the material

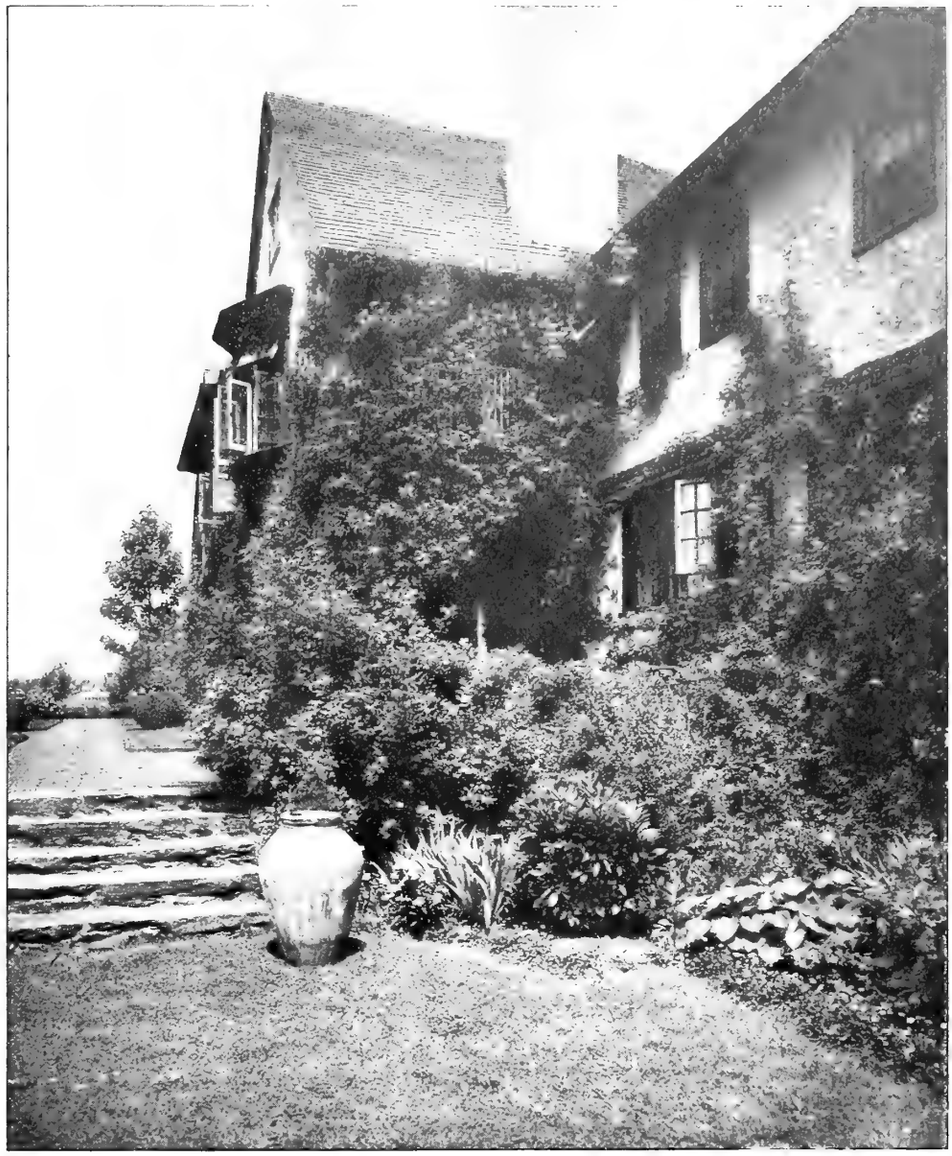


SCENES IN A GARDEN AT BRYN MAWR, PENNA., TAKEN THREE YEARS AFTER THE BUILDING OF

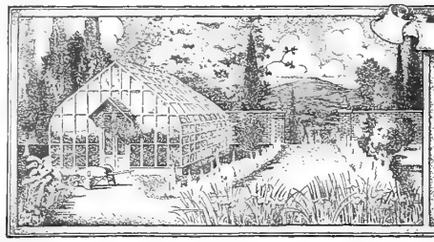
at hand does not so much matter—that it depends on the way the thing is done—like the French milliner who can make a *chic* hat out of artistic sense and a yard of ribbon.

The individuality with which the commonest and most abused plants and trees are grouped and the manner of disposal makes a garden far more interesting to my mind than a place where the individual note is not found.

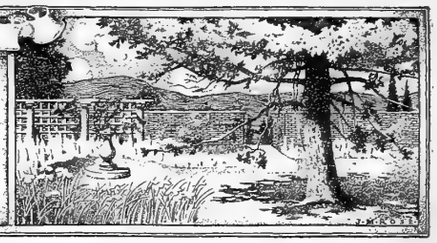
The previous article referred to was illustrated by a photograph of my family place—it had taken more than two hundred years to get the background, and Mr. Miller then described it as "a garden that had found itself." It had! And now I submit these photographs of our new place—three years old—a garden of quick results.



THE HOUSE WAS BEGUN. NOT A SHRUB, TREE OR OTHER PLANT WAS THERE AT THAT TIME



ODDS AND ENDS
FROM EVERYWHERE



Alstromeria Outdoors

IT WAS with considerable interest that I read in the October number of THE GARDEN MAGAZINE Mr. Behr's lament about his inability to grow alstromeria. *Alstromeria aurantiaca* has flourished in my garden, in a clay soil and full sunny exposure, for some years, until it disappeared because of being hoed up by a workman by mistake. *Alstromeria chilensis* is still growing well in the shade of some maple trees where lilies and rhododendrons thrive. *A. aurantiaca* is, I believe, considered the more hardy of the two, but, while this variety used to wear a good coat of manure every winter in common with the rest of the garden, my chilensis has of late years received only a thin coating of leaves as they fall from the maples. I should say the plant needs some winter protection, a good soil, moisture, deep planting, and perhaps partial shade. They are indeed very pretty. My aurantiaca is 4 feet tall, and orange color; chilensis is 2½ feet tall and in mixed shades of pink and cream color.

Cleveland, O. S. PRENTISS BALDWIN.

On page 94 of the October GARDEN MAGAZINE Mr. Behr inquires about alstromerias. I have the plants growing out of doors and they were raised from seed since it has been impossible for me to make the purchased bulbs establish themselves.

Some fifteen years ago my seed came from Germany and it refused to come up with the usual planting in a hotbed, so we sowed the remainder of the package in October, in a bed south of the house that was quite heavily covered for the protection of some tender bulbs. There the plants came up in the spring and bloomed the same year. I sold that place and again planted the seeds in the fall and transplanted the seedlings in June, to a lily bed that is always covered with leaves in winter and is in partial shade. There the plants have been for at least seven years and bloom in July usually—late July—they seem to be rather too much shaded. I have again sowed seeds, but failing to get any plants, I have concluded that the seeds have not been sufficiently protected from frost.

The only secret seems to be that alstromeria seeds take some months to germinate. They transplant easily and demand a somewhat light soil in partial shade, and must be carefully protected with at least eight inches of leaves in winter. My variety is a handsome orange color, with black lines on the lower petals. The shape of the blossoms is unique and they are persistent when cut, the buds even opening in water.

Illinois MRS. F. NORTON BIGGS.

"Cushaw," a Good Name Neglected

IN THE catalogues we sometimes see the word "cymling" applied to summer squash; but we never hear of winter squash being called anything but winter squash. In the South the winter squash is still known by the Indian name, cushaw. The plant was here and known among the Indians by that name when Columbus discovered America. Why not use this good old name? The cushaw usually has a neck. Those without necks are more or less disrespectfully called "potato pumpkins" by the negro cooks.

Lexington, Ky. C. N. LYLE.

Squash on a Trellis

LAST year my garden was so full of vegetables that I had no room for the Hubbard vines to run, so I set up a 2 x 2 stick about three feet away from a clothes line post, ran two 16-foot, 2 x 2 scantlings from the tops of these uprights to points near the squash hill, and nailed light stuff across to form a rough trellis. Meanwhile, I had covered a few joints of the vine to get ahead of the borer.

My yield from the trellis was five fine squash weighing in all 28½ pounds, while a vine on the ground gave only one small one. I would have had even better success if one of the runners had not been blown off the support and so injured as to mature only one fruit.

I found that the big squash, or stink, bugs gave me no trouble on the elevated vines, remaining near the hill where they could hide in the dirt. The labor of picking them off was thereby considerably lessened.

Another feature of my garden that attracts attention is a catalpa tree which I trimmed back in the spring and of which the main branch has grown, since May 1st, eleven feet and ten inches.

Stamford, Conn. WALTER C. WOOD.

Nasturtium and Phlox Indoors

FOR several years past I have had nasturtiums among my winter blossoms. The slips may be rooted either in water or in earth, the best slips being small branches taken off at a joint. They may be started at any time after the latter part of August. I keep them in a sunny south window in an attic room that gets heat only from the hall, and have had these new plants in bloom by Christmas Day. I discovered, also, by accident that Drummond phlox can be made to bloom all winter. A bit of phlox, taken from the garden in October was put in soil, and it did well from the very beginning. The first new blossoms came the day before Thanksgiving, and from that time until late spring the plant was never wholly out of bloom. As the winter went on the stalks grew slender and the flower was a paler purple, and by spring it was almost like a vine. It was not sickly looking, but was singularly dainty and fairy like, having from five to eight blossoms at a time.

Massachusetts. M. F. B.

Tea Roses Outdoors in Michigan

I HAVE heard it said that it is impossible to winter tea roses out of-doors so far north as Michigan, but I have proved that with little care it can be done. After hilling up the earth about the stems two or three inches, and putting over this a layer of manure, I spread a thick layer of loose leaves over the bed. I have a number of old sawhorses and after the first heavy snowfall set these over the plants and hang an old canvas awning over them. (Sometimes I use an old Brussels rug, glazed side up, and this sheds moisture perfectly.) The sawhorse and canvas make a tentlike arrangement that allows free circulation of air at the ends. I uncover the plants gradually in the spring. Twice I have sucessfully wintered, in this, way, tiny six-for-twenty-five-cent rose slips that were planted in June.

Michigan. MARY RUTNER.

Fall Cauliflowers and Peas

CAULIFLOWER as a fall crop is grown by market gardeners but the home gardener seems to be afraid of it. In my garden on the Jersey Coast I had big white cauliflower heads until the first of December, both last year and the year before.

I plant Autumn Giant in a prepared bed in the garden on June 15th, and transplant on July 20. During the dry weather of August and September I water the roots thoroughly about once a week, and two or three times during September sprinkle nitrate of soda around each plant, six inches from the base of the head. I keep the earth well worked and free from weeds, and the plants grow steadily from the time they are planted until the heads mature. Encouraged by my continued success with fall cauliflower, I decided to try peas again, in spite of continued failure during the past few years. So few peas ripened on the vines that, after the birds were through eating, there was nothing left for me. Last year, however, I had some space that I didn't need for anything else, so I planted them again, as I hated to admit to myself that I couldn't grow them. I planted Stratagem peas on August 10. They grew beautifully from the beginning, and I supplemented the lack of rain by watering them regularly. I dug a trench along each row, two inches from the roots, and allowed the water from a hose to run for several hours from one end of the row to the other, until the ground was thoroughly soaked. I did this about once a week. Three-foot wire was stretched between the rows, and the peas trained up against it. They grew to be two and a half feet high and bore almost as heavily as spring peas. I began picking October 3rd.

My success may have been due to the exceedingly dry weather, which meant no mildew, or perhaps it was just luck, but I shall certainly try again next year.

New Jersey. LOUISE BIJUR.

Ever-Ready Planting Cards

I HAVE gardened for a number of years, but sometimes find myself at a disadvantage on a fine spring morning when work is crowding, and the man who does the garden work comes demanding seed and instructions. I cannot then take time to read up on varieties, culture, etc., and I sometimes have found afterward that in the hurry of the moment, I have planted a late variety of peas instead of an early, and that a heat-resisting late lettuce has been the first sown.

The outcome of these troubles has been planting cards, which can be easily consulted and carried around, or hung up in the garden during working hours.

I cut cards of strong white pasteboard (mine are made of old boxes) measuring 8 x 12 in., and in the middle of the narrow side of these I bore a hole and put a loop of string to hang it up by. The back of each card is left blank, so that garden notes and memoranda may be written there, and on the face of the card I gum the names of the vegetables to be planted and their cultural directions. These I obtain from the catalogue of the seedsman from whom I order my seeds, cutting them out neatly and pasting them on.

A catalogue of the previous year would answer the purpose in case one was unwilling to mutilate the new issue. For example, with "Corn," I paste first the cultural directions, then under this the names and descriptions of the four varieties I intend planting, in the order of their earliness and lateness. By each variety I make a note in ink of the quantity of seed ordered, and another note "plant every 2 weeks till July 15." This is done for each kind of vegetable, and on the right hand side of each card I leave a margin of 1½ inches on which to note the dates of sowings.

These cards will not take the place of garden note books or systematic garden records, but have the advantage of costing nothing, and of being ever ready

Maryland. MRS. P. B. SPRINGER.

White Pentstemons

CONSIDERABLE space is given every year, in the catalogues of several prominent seed firms, to the merits of the white variety of *Pentstemon tubiflorus*. One description gives it as "the first pure white pentstemon," wherein the writer has overlooked the following:

Here in the hills of Northwest Arkansas is to be found native, although rather sparingly, a species of beardstongue (*Pentstemon tubiflorus*) with pure white flowers, usually covered with frost-like bloom that sparkles in the sunlight, and adds much to their charm. Botanical descriptions allude to the purple tinge in the blossoms. However that may be, the form of this plant growing on the Boston mountains is, to my knowledge, always with flowers immaculate. The plants attain a height of from two to three feet, and come into flower in late June, continuing through July. The individual flower is of good size and tube-shaped; many crowded on a stalk, which

bears a superficial resemblance to the tuberose. Specimen clumps transplanted into my garden have flourished, even suffering to grow in damp situations, generally so fatal to members of this group. It also stands drought well. As to the amount of cold it will endure, I cannot state, but in its habitat the temperature often goes under zero; sometimes when there is no snow blanket to protect the plants.

Arkansas. A. P. S.

A Unique Double Crop

IT GENERALLY happens that during any summer either the early or the late potato season is good; but it is seldom that both are found to be favorable.

A gardener whose early potato crop had suffered badly on account of long drought decided to try late potatoes. But he had only one space, an old strawberry bed in his garden unplanted, and he wanted to put that in late corn. He decided to turn under the bed and to plant both late corn and late potatoes, setting the potatoes in the same rows with the corn.

The soil was prepared and the seed planted on July 4. The corn used was Country Gentleman, and the potatoes, Bliss's Early Triumph. They came out of the ground together and grew well in their close companionship. The potato roots did not seem to interfere with the development of the corn, and the shade of the corn-blades appeared to keep the potato tops from suffering from intense heat and from sun-scald after showers. The potato tops began to die about September 20, and when the stalks were lifted, the gardener found that he had a much better crop than his earlies had yielded. The corn attained its full growth and development, some of the stalks having three good ears. This was ready to use by the time the potatoes were taken out.

In this successful experiment the rows were three feet apart, and the hills of corn were thirty inches apart in the row. One potato seedpiece was dropped midway between the hills of corn. Probably it would always be better, when planting as late as July, to use the seed of a variety that matures quickly.

Pennsylvania. ARCHIBALD RUTLEDGE.

Growing Flowers in the Middle Southwest

IT IS universally supposed that flowers cannot be successfully grown in the blistering sun and severe winds of Oklahama. I have had in my garden, however, many varieties of flowers and have grown them well, too.

Coming from the East, where the climate is mild, we believed that all we had to do was to plant, cultivate, and reap results. My first failure was from planting seeds in the open ground and not protecting them. When the soil was well prepared and the seeds carefully sown, I supposed I had only to await the proper length of time for their appearance above ground, but my hopes were not to be realized; when the gentle breezes of spring had spent their furies for about three days there was nothing left but deep holes in the earth where my precious flowers had been planted. The soil had blown out as deeply as it had been spaded up.

New beds were dug and more seeds planted. With the idea that by keeping the soil moist it would not blow away in case we had another sand storm. I watered the beds copiously each morning and evening, with the result that the soil was soon baked hard. Then I tried planting in boxes of soil, but it seemed impossible to keep them from drying out, though later I removed the boxes to a bench by the kitchen window and was really successful in starting tender plants in them by keeping them covered with panes of glass.

However, each failure in the garden only made me more determined. I refilled the old beds which had blown out and prepared some new ones with equal parts of the natural soil, rich soil from the cow lot and sand.

Then, when the beds were well watered and the seeds planted, they were all edged with boulders from the creek and covered with gunny sacks nailed to boards laid over the entire beds, rocks, and all, and weighted down with more rocks. I had wielded the mattock and dent shovel and rolled the wheelbarrow at intervals for two weeks, and in a short time I was rewarded with hundreds of plants of sweet alyssum, asters, balsams, cosmos, dianthus, poppies, mignonettes, nasturtiums, pansies, petunias, phlox, sweet peas and verbenas.

The canna bed instead of being raised to drain the water was banked up around the rock border so as to catch and hold the water. For the roses, chrysanthemums and carnations I drove holes in tin cans and buried one on either side of each plant, and each evening they were filled with water. The water was thus applied to the roots of the plants and caused the fibrous roots to grow downward into the cool moist earth and nourish the plants, instead of coming to the surface to be dried by the winds and parched by the hot sun.

Later on I resorted to this method for watering all my plants and found it most satisfactory. I have since learned that September and October are the best months to plant roses and shrubs of all sorts, also hardy perennials, even chrysanthemums, as well as some of the annuals.

Altus, Oklahoma. VIRGINIA B. MEAD.

What's the Matter With the Dahlias?

WILL some one please tell me why I did not have success with my dahlias this year? About May tenth I planted fifty bulbs in a bed deeply dug and very finely broken up. The bulbs were planted a foot apart in a rich heavy loam that had never been used before for flowers. The shoots came up and I thinned them out to one or two. When they were about two feet high I pinched off the tops of the plants. I had about half a dozen blooms. The bed is situated in a very sunny location and the plants have luxuriant foliage. Can you tell me if there is any way by which I might insure success next year, as I have some very fine varieties?

Lansdowne, Pa. E. W. DAVIS.

[EDITOR'S NOTE:—We shall specially welcome letters in reply as this complaint is but typical of several received.]

Rockery Pests

IF THE readers of THE GARDEN MAGAZINE have cherished rockeries in their gardens and desire to extermine pests therein, a search under the stones in spring will reveal all kinds of insects. Our small rockery was made a year ago and as the stones were placed too closely, it was decided to remove some and change the position of others. The first extraction revealed coils of a yellowish wire worm, sluggish still but with every promise of a future evil life! The next stone hid the same worm with slugs as companions and so on to the end, the finds closing with a black beetle armed with strong nippers. Boiling water was effectual and a coating of soot followed. Though some stones remain unturned, our alpines (some gathered from rocky hill tops of British Columbia) now have a fighting chance for summer blooming.

Vancouver, B. C. ALICE FANE.

The Old Black Gilliflower Apple

THE old Black Gilliflower is an apple which has always been valued chiefly for dessert use. It has come down to us from colonial times and is one of the apples which was grown by Israel Putnam of Revolutionary fame in his orchard at Pomfret, Conn., along with other varieties many of which are no longer propagated. It may be of interest to some readers to know that cions of the Black Gilliflower and a number of other varieties were taken from this Israel Putnam orchard and sent to the first white settlement in Ohio, at Marietta, as early as 1796. These varieties were grown in the Putnam nursery at that place, and from there disseminated to the early settlers of that region

Black Gilliflower is now obsolete, or fast becoming so, in most regions of the country. One great reason for this, doubtless, is that it is not so good an all around market apple as are such varieties as Baldwin and Northern Spy, being less brilliant in color and with less sprightly acidity in flavor.

In some few localities it is still planted in commercial orchards because it is profitable to grow it to a limited extent for some local markets, and there is some demand for it for Southern trade. On good soils, and even on poorer soils which are given liberal dressings of stable manure and provided with thorough underdrainage, it is a good grower and a reliable cropper, yielding fruit of remarkably uniform grade, fair, smooth, symmetrical, with but a very small percentage of culls.

This apple is very distinct in color, form, and flavor. The greenish undercolor becomes yellowish as the ripening processes progress. It is more or less overspread with a characteristic red, or in highly colored specimens somewhat of a dull purplish color of a very dark tone, which has been duly recognized in giving it the name Black Gillflower.

The flesh is often rather dry and at its best is but moderately juicy, but it has a characteristic and pronounced flavor or aroma which is pleasing to many. It is so mildly sub-acid that it is not much valued for culinary uses except possibly for baking. It is not in demand at evaporators or canneries.

The Black Gilliflower varies from medium to large, but is seldom very large. It is somewhat ribbed and the axis is sometimes rather oblique. The cavity is usually deep, acuminate and with red russet or greenish outspreading rays. The basin is generally rather shallow, furrowed and much wrinkled. The skin is thick, tough, striped or covered with red and streaked with a bluish gray scarfskin toward the cavity. The core is large. The flesh is whitish or with slight yellowish tinge, firm, rather coarse, tender, only moderately juicy at best, but it has a rich aromatic flavor and good dessert quality.

Ames, Iowa S. A. BEACH

Black Gilliflower, a good quality, moderately juicy, sub-acid apple that is fast becoming obsolete

GARDENING FOR YOUNG FOLKS

CONDUCTED BY ELLEN EDDY SHAW

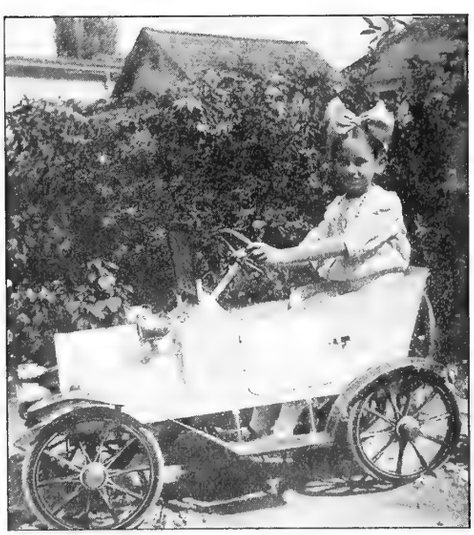
Gifts from the Garden

ALL the fall, boys and girls have been balancing up their accounts to see the actual results of the season's garden work. Now these results are not financial ones always, although they may be expressed in terms of money value. It is amazing to discover the amount of produce a small strip of soil in the backyard, after proper cultivation, will yield to the worker. Each spring a large number of boys and girls all over America pick up their hoes and spades and attack their allotted garden spaces. Accounts of this work and its results seem to have something of the Christmas spirit in them.

Each year about the first of November we go over the articles which come to us as a result of our National Children's Garden Contest. Prizes are awarded but many times the children's own accounts of their work do not appear in our magazine. The following articles from prize winners show what has been accomplished under given conditions. Many other stories could be added to these:

WON PRIZES AT THE SHOWS

MY GARDEN is thirty-five feet wide and forty-five long. I first planted my pepper and tomato seeds in the hotbed and watered them with warm water every morning. After they got about three inches high I transplanted each into a flower pot. Then after it was warm enough to put them into the earth I set them out about a foot and a half apart in rows. I planted my cabbage seed the first of April. I had about 100 plants. I gave away about forty and kept sixty which I set out for myself. I kept some plants for transplanting in case any should not head. I transplanted them the first of July. After I had set out my plants I sowed four rows of Swiss chard and two rows of lettuce. About a week later I planted four hills of potatoes and two hills each of squash and cucumber. When my vegetables were just beginning to grown I was careful not to let the weeds smother the little plants. I went through my garden every day pulling the weeds and getting the bugs off. After my plants got bigger I hoed them, being careful not to hoe too near the plants so as not to injure their roots. When I hoed my cabbages and potatoes I put phosphate around the roots to enrich the soil. The first to blossom were my peppers and tomatoes, then my potatoes, and while they were in bloom I was careful not to knock off the buds and flowers. The first things I had to eat out of my garden were my lettuce and Swiss chard. When my peppers got ripe I sold three bushels. My first tomato was ripe before the supervisor made her first visit. I sold two bushels of tomatoes and have saved some for seed for another year. The cabbage and potatoes were the last to ripen. I gave away some cucumbers and squashes. Three of my squashes were white. I took two to the fair at North Adams and saved one for seed. My potatoes were nice and smooth but I had only one peck which I have put away to keep for seed. I have about sixty perfect heads of cabbage for winter use. The Hoosac Valley Agricultural Society's Fair at North Adams offers premiums, so I exhibited three squashes, eight peppers, and eight tomatoes. The judges awarded first prize on my peppers. The Good Will Club of Williamstown, Mass., where my garden is, awarded me first prize of one dollar for the best garden kept by any pupil of the Eighth Grade.—OWEN LARABEE.



Alice's thirty-cent garden won for her an automobile

COMMUNITY GARDENS STARTED

THE LARCHMONT, N. Y., branch of the National Plant Flower and Fruit Guild was organized in February 1913. The principal object being to start children's school gardens. In May 1914 the gardens opened with fifty-six children enrolled, average attendance thirty-three. In the centre of each garden this year the children planted three stalks of corn, with very satisfactory results, much preferring this to the tomato plant of last year. Our teacher's salary was raised to thirty dollars a month, as she has made such a success of the work. The radishes and beets were of very good quality, an improvement over last year. The beans were not so good, but as other gardens also failed with beans it was thought to be the result of a cold June. Crops for 1914 were as follows: radishes, 3,766; beets, 410; carrots, 1,617; lettuce, 22 heads; tomatoes, 65; cabbage, 12 heads; beans, 101 quarts; parsley, 15 bunches; corn, 131 ears; strawberries, 2 quarts. We had community gardens of tomatoes, parsley, cabbage and strawberries; the latter having been given to the gardens, as small plants in the early spring. Our plant market this year brought in forty-two dollars, which was used for seeds, fertilizer, etc., and to help with our increased expenses. We give prizes at the close of the garden season for attendance, diligence and community work.—MARTHA BINTLIFF.

A GARDEN OF MANY FLOWERS

MY GARDEN is about 45 x 47½ ft. but part of that is taken up by a small barn, arbor and hotbed. On the arbor I have six kinds of flowering vines and one banana squash vine. Against the barn are gourds and nasturtiums. In my pond are lilies, water hyacinths and water poppies. Against the house are blue lilies and Canterbury bells. In front of the house are wild flowers. Along the street are roses, a honeysuckle bush, snowballs, hydrangea and several other hardy shrubs. My flower seed cost thirty cents. They were pennypackets; some bulbs were given to me. My favorite flowers are salpiglossis, snapdragon, tuberose, a kind of blue lily, forget-me-not, roses, pansies, and sweet William. First against the fence, because they grow so very tall, are artichokes, then a row of golden glow, then cosmos, next about twelve althaea, then iris and wild wood-lilies. In front of them is a bed of daisies and the other small bed, even with the daisies, has snapdragons. In the back of the snapdragons, even with the iris, are dahlias. Then I have portulaca, pansies, asters, cockscombs, spiderwort and castor oil beans to hide the arbor till the vines cover it. When the daisies were through blooming, I cut them down and planted zinnias. I mustn't forget the roses! Mine grow wild in a round bed and the blossoms are as big as if the bushes were pruned. All the pruning they get is when I cut off the blossoms. I tell you all this about my flowers because I am competing in the class of "greatest variety of flowers raised in a home garden."—ALICE BUDWEG, Cleveland, O.

VEGETABLES IN VARIETY

YOU WOULD be surprised to see how many kinds of vegetables I have in my garden. The judges won't consider a garden that has only a few kinds. Early in the spring I start tomatoes, red and green cabbage, self-blanching celery, cauliflower, parsley, peppers, and onions in my hot box, which is 15 x 5 ft. My garden is 45 x 47½ ft. I divided it into three parts. My walks are even with Alice's so they are 90 feet long from the house to the front of our yard. The picture shows some of the products that I had at the show. On the top row are a few tomatoes and peppers. The next row has an eggplant, three kinds of squash and two large peppers. In the third row are cauliflower, butter beans, my first prize turnips and third prize pumpkin. The next row has kohlrabi, first prize salsify, lima beans, third prize pop-corn, beets and summer squash. On the walk are cucumbers nearly a foot long, first prize red cabbage, sugar beet, rhubarb and field corn. In front of the cucumbers are root celery, two small watermelons, parsley and gourds.

William's vegetable exhibit. This represents nineteen dollars in cash

In my garden I also have eight rows of carrots, one row Swiss chard, one row parsnips, two rows self-blanching celery, one row green cabbage, one row blackberries. I also had three rows of sweet corn, two rows field corn and nine rows popcorn; next were two rows turnips and three rows salsify. Among my tomatoes I had peas, and radishes, lettuce and butter beans. Later I planted cabbage and cauliflower in the same rows.—WILLIAM BUDWEG, Cleveland, O.

A SUCCESSFUL FIRST YEAR

I PLANTED my garden May 5, 1914. In it I had potatoes, cucumbers, sweet peas, cauliflower, cabbages, pumpkins, squash, and nasturtiums. The garden was watered every day from a little brook which runs in back of our house; I kept it hoed and free from weeds. My brother, William, and I tried to see who could get the most money from our gardens. I was not troubled much by the worm this year, except for a few which came in the latter part of the year in my cabbages. In my garden I had some large pumpkins which brought me a prize at the North Adams Fair. The cauliflower took a prize and also my Green Mountain potatoes. In three prizes, counting the fair money, I got about $1.75 in all. The pumpkin prize was 50 cents, the prize for the cauliflower was 75 cents, for potatoes 50 cents.—JOSEPH DANAHER, Williamstown, Mass.

The Readers' Service is prepared to advise parents in regard to schools

Winter Gardening Begins

IT WILL keep one busy this first month of winter doing the things one should have done in the fall and preparing for next year.

It is not too late to plant bulbs. Take advantage of mild days, and if the hyacinths and tulips are to be in beds by themselves, it is a good plan after working the soil thoroughly to remove about four inches of it. Place the bulbs on the level bed five inches apart and arrange according to colors. Press each bulb firmly into the earth and replace the four inches of soil; on top of that have a light covering of well rotted manure.

Madonna lilies make a pretty effect if planted among rhododendrons; or if planted alone in a bed and the blue annual larkspur seed scattered on the ground the blue and white combination is very lovely in June.

The pots of bulbs which were buried in the open ground according to directions in the September GARDEN MAGAZINE should now be brought in the house, watered thoroughly and left in the cellar, and every two weeks a few brought at a time to the light and heat of a sunny window so as to have blooming plants throughout the winter.

Plant Paper White narcissus bulbs in bowls filled with water with pebbles to hold the bulbs in place. Arrange a few bulbs every few weeks placing them in the dark for a week. Then bring them into the sunlight. In six weeks they will be in full bloom.

Plan the garden for next year and order the seed for the spring. Many kinds are first started in hotbeds and coldframes in February and afterward transplanted to the open ground.

Trim the trees and shrubs and grape vines. Deciduous shrubs can be divided and transplanted and orchard and ornamental trees set out. Evergreens should be planted in early spring.

Make cuttings of roses, shrubs, and small fruits, such as gooseberries, raspberries, and currants. They should be ten inches long and have a straight clean cut with a bud near the end. Tie cuttings in a bundle of a dozen or more having the ends even. Pack them in damp sand within a few inches of their tops in a box, and place in the cellar or put outdoors in a protected place. They can be set out in rows in the garden in the spring in rich soil.

Set out the strawberry plants if it has not already been done, being careful not to cover the crowns; press them firmly into the ground with the foot. Examine the orchard and if there is any sign of San Jose scale, spray with lime-sulphur, using the ready prepared article, as it is some trouble to make properly.

In planting a new orchard get two-year old trees—no older. Cut off all bruised or broken roots and trim the tops of the trees before planting. Get the kinds of fruit that do best in your locality.

Compost old sods, woods earth, leaves, and manure. Turn them over and mix up several times during the winter. Raw phosphate rock or acid phosphate and a little potash may be mixed with these ingredients to advantage and all should be thoroughly incorporated. This will come in well for the hotbeds and coldframes in the spring.

Spinach and kale, if not already seeded, should be sown at once; and when the weather is fine, plant out the cabbages for the spring crop if it was not done in November. Give plenty of mineral fertilizers, phosphates and potash, but withhold nitrogenous fertilizers until spring, as farmyard manure will supply all the nitrogen needed at this time.

Give daily attention to the lettuce in the coldframes, lifting the sash and letting in air every day unless it is freezing weather.

If instructions were followed as given in the fall numbers of THE GARDEN MAGAZINE, and some lettuce plants set out every few weeks, there will be headed lettuce throughout the winter. The first planting should have been forced for use in November and then attention given to the second lot. A fertilizer made up of two parts potash, two

parts acid phosphate, and one part nitrate of soda is good for lettuce in the frames working in a little between the rows every three weeks. Water the plants in the morning as they will be chilled too much and kept too damp if done late in the day. Be on the alert for aphis and lettuce worms. They should be smoked out with tobacco or the young plants sprinkled with tobacco dust; there are powders which are advertised which are very effectual if dusted over them and which are not poisonous to human beings.

Those parts of the garden not seeded to crops should be limed and plowed. Plow twice in the same furrow, throwing the earth high and leaving it exposed throughout the winter. It mellows the soil and gets it in fine condition for spring and one also gets rid of a number of garden pests by freezing them out.

In the Tidewater and milder sections of the country Irish potatoes may be planted this month for a very early crop. This has been called by some a "lazy" bed of potatoes as they lie there all winter. In order to make a success of this method, the furrows should be made very deep by running the plow through each row twice. Break up the soil very fine in the bottom of the row, and thoroughly mix with it some good potato fertilizer rich in potash. The sets should then be planted two feet apart in the row, some earth thrown over them, and over this a thick covering of barn-yard manure. Plow furrows from each side so as to thoroughly cover the manure and make a ridge over the sets. In the early spring, harrow this ridge down, and the potatoes will come through. If they should come too early, and there is danger from frost, plow a little soil on to them as soon as they break through.

Cover the celery beds with pine tags weighted down with old bean poles or planks.

Level the asparagus bed and cover with hen manure mixed with kainit.

Dig around the fruit trees and shrubs two feet from the trunks and sprinkle some good fertilizer about them.

Top dress the lawn when the ground is frozen, then it will not be cut up by the wagon wheels. A thin scattering of tobacco stems and some bone meal is much better than cow manure, which brings weeds.

Virginia. J. M. PATTERSON.

Shrubs for Shade

THE spireas and weigelas (Diervilla) are excellently adapted for growing in shade. *S. Van Houttei*, in my experience, will thrive where other shrubs fail. At my Chicago home I planted it between two buildings, just to the north of one, where the sun never struck and it has good foliage every year although it never blooms. It does much better in the shade for me, than that stock shrub for shady places, the snowberry (*Symphoricarpos racemosus*).

Weigela rosea seems to do better in the shade than the dark flowered variety Eva Rathke. It also is considerably more hardy, if experience around Chicago may be taken as a guide. Do you know that Eva Rathke and other supposed-to-be hardy shrubs, such as *Deutzia gracilis* and *Spiræa arguta*, often winter kill in the nursery row in Chicago when young? I am inclined to think the heavy soil has much to do with this.

Illinois. FRED HAXTON.

Two Crops of String Beans

TWO years ago, after the string bean vines had stopped bearing, I intended to pull them up and plant something else that would mature before the season was over. But I did not attend to it at once, and when I came to tear them up, I noticed that they looked as if they would start out again from the axils. So I decided to cut off the old tops, leaving stumps about six or seven inches high. They leaved out and blossomed and we had beans until frost. Last season I did the same thing, sprinkling a little nitrate of soda near them, and in one month from the time I cut them back I gathered some beans, the vines continuing to bear through September. This is especially good to do if the season is too short to make another planting and have it mature.

New York. JANET G. SIMS.

If a problem grows in your garden write to the Readers' Service for assistance

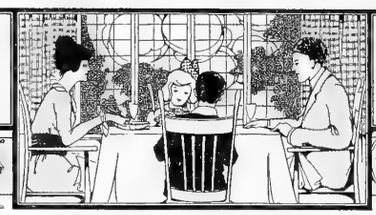
Poultry, Kennel and Live Stock Directory

Information about the selection or care of dogs, poultry and live stock will be gladly given.

Address INFORMATION DEPARTMENT, THE GARDEN MAGAZINE, 11-13 W. 32d Street, New York.

The Readers' Service will give information about automobiles

SUGGESTIONS FOR THE HOME TABLE



Conducted By
EFFIE M. ROBINSON
Graduate of the National Training School of Cookery, London, England

BY the time this article finds itself in the housekeeper's hands, she will be in the throes of the busiest time of all the year, not only has she all her ordinary work to do, but a great deal of extra preparation and planning to be done within a certain time —Christmas Day. The whole house must be set in order from top to bottom and rooms prepared for the returning school or college members, or perhaps for guests for over the holidays; and the presents and cards to be decided upon, prepared and sent off.

Where the Housekeeper Needs a Time Card

Later, during the last two weeks or so, comes the preparation for the meals, not actually for Christmas Day alone, but in the majority of houses there are several days when the members of the family are home all day, requiring meals. By this time the housekeeper is usually pretty well fagged out and this is where commerce again comes to her aid. There is really no need, as so many housekeepers do, to spend hours of labor in preparing fruit, chopping peel and suet, and making bread crumbs and attending to all the tedious minor details necessary to the making of home-made plum pudding and mincemeat. There are some excellent brands, made by reliable people, who understand what is required in a Christmas pudding, and indeed this term "home made" is somewhat of a fetish, is it not?

Specialists Versus Amateurs

Preparations made by people who devote their whole time, energy and brains to turning out a product that will really sell on its own merit, must surely be as good anyway as the, perhaps, hurried preparation of an overtired housekeeper or the careless work of a disinterested maid. So I suggest buying your Christmas pudding and your mincemeat from the maker whose products you like the best. After the usually too plentiful first courses of the Christmas dinner the pudding is more to gratify the eye than for satisfying hunger and a ready-made pudding steamed in its tin until piping hot, turned out on a hot dish, with a sprig of holly with the berries on for decoration and with flaming brandy around it, will cause just as much jollity as if you had spent hours of labor for the few minutes of consumption. As a rule, a very good recipe for sweet sauce to be served with the pudding is to be found on the tins and it is a good plan to get the paper off the tin before putting it in the saucepan to steam. However, any favorite recipe will do flavored with brandy.

Mincemeat can also be bought ready prepared, either in glass jars quite ready to use or in packages compressed, to which you must add moistening of cider or any other liquid you yourself prefer. Both are excellent and you can please yourself as to which is most convenient.

Vegetarian Mincemeat

There is a mincemeat made without using suet or meat, which I call "vegetarian," and which, it is claimed is more digestible than the usual kind. I will give the recipe here as it may be preferred by some:

1 lb. apples, chopped fine
½ lb. large grapes, skinned and seeded
½ lb. raisins, stoned and chopped
½ lb. currants, cleaned
¼ lb. mixed candied peel, chopped fine
¼ lb. brown sugar
1 lemon or orange, grated rind and juice

You can make half the quantity and use it for your children's party. *Don't make the children sick because it is a holiday!*

A Special Pudding for Children

Talking about children, I do not believe in giving little people rich puddings, holiday or no holiday. Here is a recipe that was used at Christmas time in our family, I remember, until the children were quite big and, served the same way as the "real" pudding, gave just as much satisfaction. Take three quarters of a pound each of flour, chopped suet, and seeded raisins, cut fine, half a teaspoonful of salt and about half a pint of sweet milk. That does not sound at all appetizing, but mix those ingredients most thoroughly together and put the mixture into a bowl, greased well, twist a piece of greased paper over the bowl and steam that pudding for about five hours and it will be a rich brown and look and taste delicious. It is most wholesome.

Good Christmas Cakes

Since you have not been bothered and tired out making the plum pudding, you can devote more time and energy making cake. Home-made cake is always delicious. Here are the ingredients of a Christmas cake that is made like any other cake:

1 lb. flour, sifted
¾ lb. butter
2 oz. brown sugar
¼ lb. molasses :
2 oz. mixed peel
3 eggs
1 teaspoonful carb. of soda
6 oz currants, cleaned and picked over
6 oz. Sultana raisins, cleaned and picked over

Always grease the tins and for a cake that will take an hour or more to cook line the tin bottom and sides with greased papers—not waxed paper as that will smell like tallow; but grease the paper with melted lard or oil with a pastry brush.

Another excellent cake is the following:

11 oz. butter
11 oz. flour
10 oz. gran. sugar
6 eggs
1 lb. currants
1 lb. raisins or Sultana raisins
¼ lb. sweet almonds (blanched and chopped)
¼ lb. mixed peel (chopped)
½ lb. mixed spices

These cakes will keep quite a long time if let get thoroughly cold, wrapped in several layers of waxed paper, and then in a clean cloth and kept in the icebox. These cakes can quite well be made a week or so before Christmas.

Be sure when making cake to buy the best "pure food" flavorings and spices. Nowadays, by the pure food laws, merchants are obliged to label their products so that there can be no excuse for getting an inferior article and it certainly pays in cake making to use the best ingredients. There is a cake tin with a removable bottom which I find very convenient.

Orange Baskets

Have you ever tried making orange baskets? We always have them at holiday time; they are not only delicious but quite amusing to the children. We cut the skin from the upper half of the orange, leaving an inch wide strip for the handle. Oranges with rather heavy skins are best for the purpose. Remove the pulp carefully so as not to spoil the handle. Make an ordinary orange jelly, not too stiff, fill each basket almost full, and allow to harden. Then fill up the basket with whipped cream and decorate with a maraschino cherry on top. This maks a very enjoyable dessert for tea.

All foods advertised in this department have been tested and approved by Effie M. Robinson. They are also sold and recommended by the Doubleday, Page & Co. Coöperative Store

Free Cook Books Every Reader Ought to Have

MANUFACTURERS of standard food products are much interested in the proper cooking and the serving of dishes in which their products are used. Many of them publish cook books of great usefulness. We have requested a few of these manufacturers to allow us to distribute their books of recipes to readers of The Garden Magazine without charge.

Just write us a letter giving your name and address and we will have the books as listed below forwarded to you promptly. If you do not care for all please indicate by number those you do want. This list contains additional names to the list issued last month. Those who have written already for the list as published, will receive also these later listings.

No.	Manufacturer	Product	Name of Book
1	Royal Baking Powder Co.	Baking Powder	Royal Baker
2	F. A. Ferris & Co.	Hams & Bacon	Table Hints
3	Walter Baker Co.	Chocolate & Cocoa	Choice Recipes
4	Genesee Pure Food Co.	Jell-O	Desserts of the World
5	Diamond Crystal Salt Co.	Salt	101 Uses for Salt
6	*Burnham & Morrill Co.	Fish-Flakes	Good Eating & Sample
7	A. Colburn Co.	Mustard & Spices	Recipes
8	‡Cresca Company	Preserves, etc.	Cresca Delicacies - 2c
9	The Fleischmann Co.	Yeast	Good Things to Eat
10	Gorton Pew Fisheries	Cod Fish Flakes	True Food Economy
11	Hawaiian Pineapple Packers	Canned Pineapple	100 Recipes
12	Hills Bros. Co. [Ass'n	Dates, etc.	Dromedary Cook Book
13	Geo. A. Hormel Co.	Hams & Bacon	Dainty Ways of Serving
14	Knox Gelatine Co.	Gelatine	Dainty Desserts
15	Francis H. Leggett & Co.	Premier Foods	Pure Foods
16	Minute Tapioca Co.	Tapioca & Gelatine	Minute Man Cook Book
17	Proctor & Gamble Co.	Crisco	Story of Crisco
18	Sea Beach Packing Works	Minced Sea Clams	Secret of Many Delight-
19	Southern Cotton Oil Co.	Salad Oil & Snow-	Recipes [ful Dishes
20	Stephen F. Whitman & Son	Chocolate, etc. [drift	Marshmallow Whip
21	Worcester Salt Co.	Salt	Worcester Cook Book
22	G. Washington Coffee Sales Co.	Instant Coffee	Booklet
23	‡Stickney & Poor Co.	Spices, Mustard, etc.	Fifth Generation Cook
24	McMonagle & Rogers	Fruit Flavors	Recipe Book [Book—2c.
25	Landers, Frary & Clark	Percolators, etc.	The Chafing Dish

*Sample of product on request. ‡Enclose 2 cent stamp for this book.

Address Miss Effie M. Robinson, Home Table Dept., Garden Magazine, Garden City, N. Y.

If you wish to systematize your business the Readers' Service may be able to offer suggestions

COMING EVENTS CLUB & SOCIETY NEWS

Meetings and Exhibitions in December

1, 2, 3. Minnesota State Florists' & Horticultural Society, Minnesota State College of Agriculture, St. Anthony Park, Minn.: meetings and lectures.
2. Worcester County Horticultural Society, Horticultural Hall, Worcester, Mass.: annual meeting.
4. Pasadena, Calif. Horticultural Society: meeting.
9. Nassau Co. Horticultural Society, Glen Cove, L. I.: meeting.
11. Connecticut Horticultural Society, Hartford, Conn.: meeting.
12. Dobbs Ferry, N. Y., Horticultural Society: meeting.
14. Rochester, N. Y., Florists' Association: meeting.
16. Tarrytown, N. Y., Horticultural Society: meeting.
18. Pasadena, Calif., Horticultural Society: meeting.
26. Dobbs Ferry, N. Y., Horticultural Society: meeting.

Note: The Editors will be grateful for information about the doings of horticultural societies, garden clubs, etc., and especially as regards notices of coming events to be announced in this department. In order to ensure timely publication, the information must reach the Editors not later than the *twelfth day of the month preceding the date of issue* in which the notice should appear.

A New Begonia

THE Society of American Florists and Ornamental Horticulturists announces that Mr. J. A. Peterson of Cincinnati, Ohio, has registered the new winter-flowering begonia Mrs. J. A. Peterson. It is a seedling from Begonia Socotrana X Gloire de Sceaux; the flowers are a deep cerise-pink changing to dark red with age, and are borne in great profusion from October till March. It is at its best during December and January. The foliage is similar to that of Gloire de Lorraine, but of an iridescent bronze-red, decidedly distinct from all other varieties. It has been grown by Mr. Peterson for the past three years, and its keeping qualities are excellent.

New Chrysanthemums at the Government Flower Show

THE feature of the chrysanthemum show held by the Department of Agriculture at Washington in October was the large and varied collection of Chinese and Japanese greenhouse varieties. The most striking variety new to this country was Mrs. R. H. Boggs, an English blossom. It is a white reflex, with wide florets, and the largest flower in the show, being nearly thirteen inches across. In form it is similar to the Bob Pulling, which attracted a great deal of attention last year. A number of fine specimens of the Bob Pulling were shown this year.

A flower which attracted attention from amateur growers who visited the show was the Flamingo, a medium sized blossom of reflex form, and most unusual coloration. The florets are a very deep red with bright yellow reverse. Government experts say the Flamingo will become a popular commercial variety.

Among garden varieties, a striking new pompon was exhibited, called the Golden West. It is a small flower of brilliant yellow color and very perfect form. Arthur is the name of a new single variety having florets of mixed red and white.

The Government gardeners have given special attention to the development of what they term semi-doubles—blossoms having usually four rows of florets, and being in form something between a pompon and a single. They predict that these flowers will become very popular commercially because they are hardy and ship well. Many varieties of this type were shown. One of the most striking is among the seedlings from which the exhibition flowers of next year will be chosen, and which have not yet been named. This is a deep red flower with yellow reverse, like the Japanese Flamingo.

Another promising flower among the seedlings still unknown to fame is a deep red single, with an anemone centre, and a beautiful quill ray. There were a number of excellent quill flowers in the collection.

The exhibition this year was larger than last, there being about 1,800 plants on exhibition, including about 320 varieties.

Washington, D. C. HARVEY FERGUSON.

Great Flower Show for Newport

ARRANGEMENTS have been completed for a sweet pea show on July 8 and 9, 1915, which will be held under the auspices of the American Sweet Pea Society, the Newport Garden Association, and the Newport Horticultural Society. Plans are now under consideration for the addition to this convention of a summer meeting of the American Rose Society. The show will be held in the Newport Casino, Newport, R. I.

New Garden Clubs Formed

WE TAKE pleasure in announcing the formation of two new garden clubs, one at Louisville, Ky., and the other at Tarboro, N. C. The latter was formally organized on October 20th, 1914, the secretary being Rebecca R. Bridgers. A vigorous association has been launched at Bernardsville, N. J., with Mrs. Lloyd as president. Several successful meetings have already been held.

The Shedowa Garden Club

ONE of the first garden clubs to be formed in America was the Shedowa Garden Club of Long Island, with headquarters at Garden City. The name is an Indian one meaning "Great Plains," the title given to Hempstead Plains, where Garden City is located.

The aims of the club, as set forth in its printed leaflet, are: The improvement of home gardens; the exchange of experiences; the protection of the native flora; the fostering of flower and vegetable shows; the encouragement of well kept cottage dooryards and children's gardens; the adoption of a color standard; the federation and coöperation of garden clubs.

Books on gardening are owned by the club and lent to members. A travelling library of twenty-five volumes on gardening and horticulture was borrowed from the New York State Library for two years. Catalogues of American and foreign dealers, are also kept in the club library. The club is in constant communication with the United States, and also the New York State, Departments of Agriculture; the Agricultural College of Cornell University; the Arnold Arboretum; the Long Island Railroad Experiment Station at Medford; with amateur garden clubs and professional horticultural societies all over the country; as well as with individual authorities on gardening matters, both in America and Europe. Lectures on the culture of flowers, bulbs, shrubs, etc., are given by experts at the monthly meetings. Personal experiences of members are, of course, exchanged, and the members of the executive committee stand ready at a moment's notice to give any assistance in their power.

The protection of the native flora, owing to local conditions, is a harder task and has consisted chiefly, so far, in a finely illustrated lecture on "The Vanishing Wild Flowers of Hempstead Plains" by Mr. Norman Taylor, of the Brooklyn Botanic Garden; in striving by precept and example, to teach children, as well as grown-ups, not to pick flowers, or break shrubs and trees in a wanton and harmful manner; and in posting signs pleading for the destruction of the egg clusters of the tent caterpillar.

The fostering of flower and vegetable shows has been shown by an improvement of the floral exhibit at the annual County Fair; and by the inauguration of local flower and vegetable shows, which have paid for themselves in entry fees and admissions, and even left a small surplus for the treasury. Competent judges have given their services. Small shows of separate genera—bulbs, dahlias, peonies, etc.—are held at the monthly meetings in season.

The encouragement of well-kept cottage dooryards owing, as in the case of the wild flowers, to unusual local government, was rather a problem; prizes were offered, but without much result. The method now to be tried is the awarding of prizes at the autumn flower and vegetable show for the products of the cottage gardens.

The encouragement of children's gardens has been more successful. All the children of the Garden City public school who care to compete are given twenty-

five cents' worth of flower or vegetable seed, for which each child pays ten cents, the club paying the balance. The children plant their seeds at home, exactly as they please, and in late July or August a committee makes the round and judges each garden on a scale of points for neatness, quantity, quality, etc.

The adoption of a color standard is one of the chief aims of the club. After several years of experiment and "matching up" of flowers, the Executive Committee decided upon Dr. Robert Ridgway's book "Color Standards and Nomenclature" as being far simpler, more compact, and more accurate than the French chart then in more or less general use, and having the added advantage of being in English. The club, therefore, commenced a vigorous campaign of talking and writing, called the attention of the Garden Club of America and other independent clubs to the Ridgway chart, and started a movement in which many of the clubs are joining, to urge the dealers to adopt this chart as a national standard of color nomenclature. The one drawback to this chart is its price, but the aim of the club is to prepare a less expensive chart of fewer colors, based on the Ridgway system of nomenclature. It is gratifying to learn that so eminent an authority as the Rev. Joseph Jacob is giving his color descriptions in terms of this chart, and leads to the thought that it may prove not only a national, but an international, standard of garden color.

The federation and coöperation of garden clubs are planned for on a basis Utopian in its ultimate conception. The plans at present in action are based on the *free* exchange of help between clubs. Each club having a "co-operation secretary," whose sole work should be to send out, periodically, a report of the meetings for the period and a schedule of meetings for the period to come. The reports should include the name of the speaker, subject, price paid, and whether or not the speaker was pleasing to the club. Representatives from any club in correspondence under these arrangements are invited to attend the meetings announced for the succeeding quarters. Except for the fact that there is no separate secretary for coöperation work, to which the corresponding secretary attends, these plans are in active service in the Shedowa Garden Club. As for formal federation, our country is so large, and the ideas and ideals of the garden clubs differ so widely in different sections, that a real national federation, on democratic lines, is almost impossible. In the formation of a club, the members have every right to their choice of social restrictions; in a national federation of clubs, it would seem as though all kinds should be represented. from the small association of farmers' wives to the wealthy association of the summer colony,

The management of the Shedowa Club is entirely in the hands of the Executive Committee. The membership is not limited; the dues are smaller than those of the average garden club, and men of the community are admitted as associates (since they cannot attend afternoon meetings) for a still smaller fee. The club is an all-the-year-round one, with meetings each month, and an occasional extra talk. The speakers and their expenses, prizes (except for four cups offered at each large flower show by members and not permitted to exceed $2.50 in price), and in fact all expenses, are paid from the club treasury. An entrance fee for members, and admission to non-members, are charged at the spring and fall shows, and occasionally a small admission fee is charged to non-members for some of the illustrated lectures; but as a rule, non-members are invited as guests; and no admission fee is ever charged to members except for the shows. Neither fee, nor admission, is charged for the little shows at meetings. Members are never assessed beyond their annual dues. This strict financial arrangement is one of the reasons for its remaining an independent club.

The Secretary of any garden club who cares to write to the Secretary of the Shedowa Garden Club, 26 Cathedral Ave., Garden City, L. I., with a request for a quarterly schedule of meetings, will receive a copy, together with a cordial invitation to her club members to attend our meetings when they can and will.

MARY YOUNGS, Sec'y.

An Exhibition of Garden Books

Thanks to the enthusiasm and energy with which Mrs. Gertrude Boardman has carried out the ideas of the Garden Club of America and allied organizations, there will open at the New York Public Library about the middle of January, the first comprehensive exhibit of horticultural and practical garden books ever held. Details will be given later.

If you wish information about dogs apply to the Readers' Service

The READERS' SERVICE

Expert aid and advice on individual problems of practical gardening

Brown Rot on Peaches

Our Early Crawford peaches grew to a good size and were well colored, but many of them cracked open before fully ripe and ants entered the cracks. What remedy is there for this?—J. M. W., New Jersey.

—YOUR peaches are affected with what is known as peach scab. This is a very common disease on many varieties of peaches. The method of treatment is the same as that for brown rot, and should be along two lines. In the first place the mummied fruits should be shaken off the trees and then either gathered up and destroyed or else buried or plowed under. The second line of attack is by thoroughly spraying the trees with lime-sulphur, at the winter strength, applied shortly before the buds swell in the spring. Strong copper sulphate solution is satisfactory, if more convenient, and may be used if there is no San Jos scale in the orchard. Spray the trees later with self-boiled lime-sulphur. When a bad attack is feared, three applications should be made, the first perhaps three or four weeks after the blossoms fall, again two or three weeks later, and a third time two or three weeks after this. Under less serious conditions one spraying may be all that is needed, and this should be probably six weeks to two months after blossoming. In any case do not spray tree fruits, especially peaches, so late that the spray will still be on them at picking time.

Tree-Shaded Grass

I have in my lawn a number of English mulberry trees which have grown large and which cast a dense shade. In the past two or three years the grass, Bermuda turf, has been growing thin, so that now the soil under the trees is nearly bare. Is there a grass, preferably one that will remain green all the year round, that will grow in this shade?—S. L. G., Mississippi.

—THE maintenance of grass under the shade of trees is a question of constant feeding and renewal. No grass will grow in heavy shade, and as the trees gain in size the grass will become weaker and weaker until it is ousted altogether. You must realize, too, that all the food you give the grass also feeds the trees and it is a see-saw game until finally the trees win. If you want to cover the ground you might make use of periwinkle or ground myrtle (*Vinca minor*).

The African Daisy

Can you tell me why I fail to make the African daisy (Gerbera) merit its descriptions in catalogues?—E. A. A., Tenn.

—THE African daisy is somewhat difficult to grow. It is best grown on benches in a cool greenhouse. The difficulty in growing this plant lies in the fact that its natural growing season is during our winter season. It has to be rested during our summer season and started into growth during the fall and kept growing all winter.

The Oak Pruner

A number of oak trees on my property have, during the past few years, been attacked by an insect. Branches have been nearly cut off at from a foot to three feet from the outer ends, and finally fall to the ground. Each one contains a white worm which bores through the heart of the branch. The worms do not go in toward the tree. I have had all fallen dead branches burned. How can I overcome this trouble?—H. H. R., New York.

—THE INSECT that is attacking your trees is the oak pruner (*Elaphidion villosum*). This rarely becomes serious enough to do any great amount of damage and when necessary can usually be controlled without great trouble or expense. As you have noted, the insects fall to the ground inside of the twigs. Here they remain until the following spring, although occasionally they make their way into the ground a few weeks after the twigs have fallen and undergo their changes there. In either case, the only thing to do is to gather up and burn the twigs as fast as they fall. Those twigs that die on the tree can, of course, be pruned off and destroyed, although they are usually so few as to make this extra work unnecessary. To the best of our knowledge spraying would have no effect on this insect.

Hybrid Perpetual Roses Not Blooming

I have a number of Hybrid Perpetual rose bushes which have become very large and which did not blossom at all this year. To induce blossoming, should they be trimmed in the autumn or spring and should they be cut almost to the ground?—H. C. C., Nova Scotia.

—THE ABSENCE of bloom on your Hybrid Perpetual roses suggests that the suckers from the stock, on which the variety was grafted, have taken the lead, and the desired variety killed by the luxuriant growth of the suckers. The best time to do pruning is in the spring because, if done in the winter, there will be some cutting further back of the wood; and if fall pruning is done, the bushes will have to be gone over again in the spring in order to cut out dead wood. You can hardly prune the bushes too severely if you want the finest blooms. Cut back, leaving only about four to six inches of the old wood. It should be remembered that those roses bloom on the new wood.

Apples Rotting on the Ground

If apples are allowed to lie on the ground and rot, will it injure the tree in any way or cause the soil to become sour?—A. N. P., Conn.

—SO FAR as the tree is concerned, it is beneficial to let the apples decay on the ground beneath them as in this way a small amount of plant food and humus is added to the soil. However, the practice is not advisable because of its possible effects upon next year's crop of fruit. A good many of the apples that fall do so because they are infested with insects or disease. By leaving them on the ground you give the enemy of whichever kind an excellent opportunity to develop, mature and effect an increased infestation the following season. It would, therefore, pay you to gather up the windfalls frequently or give hogs access to them. However, we do not think any average quantity of apples could possibly cause the soil to become sour.

Suggestions for Planning Grounds

I am building a home and am enclosing a sketch of the property. Will you give me some suggestion for planting shrubbery, decorative, and fruit trees, locating walks, laundry yard and children's playhouse? The ground is level, soil rich, house is in pure Colonial style; no garage, stable, or chicken house will be required at present, nor will there be a driveway into the property. The neighbor's barn at the rear has a wall about twenty feet high, and should be shielded from view.—H. B., New Jersey.

—WITH a frankly Colonial house the front approach may be strictly formal, leading directly to the front door with a walk surrounding the entire house. From the plan submitted, we see that there are apple trees in the back, so we take it that the rear of the property is to be devoted to fruit trees and bush fruits. A few Lombardy poplars would help to screen the barn on the adjacent property. Fruit trees at the rear will actually lend distance to the property and look very pretty in flower, and the background of green later on in the season will be serviceable as a frame to any garden picture you may develop. The indications are that in front of that place is the vegetable garden, which is separated from the lawn by a low hedge of Japan barberry. A walk is continued from the rear of the house directly into the orchard, and might be embellished with arches of clinging vines; and at the end of the walk, if you care to do so, you might provide a fountain, pool, or sundial. The playhouse is provided near the vegetable garden and is partly secluded by surrounding clumps of shrubbery, so that if necessary an outlet can be had into the vegetable garden for a child's garden. We suggest planting somewhat tall trees or shrubs each side of the house in order to break direct views into the adjacent properties. Flowering plants, especially spring bulbs, might be planted in one border so as to be easily seen from the dining room windows, and an herbaceous border, in the rear of the property bordering the walk, could be extended through the kitchen garden as far as the orchard, where we should recommend the use of dwarf fruit trees. The laundry yard should be enclosed with lattice work over which honeysuckle or climbing roses might be trained to grow. Beyond these few suggestions we are unable to give you any definite plan for laying out your grounds; that is out of our province. But should you care for the services of a landscape architect, we are ready to furnish you with names and addresses.

Scraping Apple Trees

What time of the year should apple trees be scraped? Also, should this treatment ever be given to pear trees?—C. F. D., Mass.

—FRUIT trees can be scraped at almost any time through the year, but the most desirable period is just before the growth begins in the spring, that is, when late winter pruning is usually done. In general, however, this practice is recommended only when trees are very old and neglected, and the bark extremely old and loose, so that it provides a hiding place for insects.

Asters Blighting

I enclose a specimen of what should have been an aster blossom of the Giant Branching kind. Why did they blight? We raised very good asters in this same plot three years ago, and since then it has been planted to vegetables. A few "astermums," for which the seed was secured from an eastern seedsman, blossomed well for a very short season. These plants were among those that blighted.—R. W., Ill.

—FOR several months we have been receiving letters from our readers stating that they have had the same trouble with their asters that you have had. The exact cause of this trouble is unknown; but by keeping the plants constantly growing and spraying them from time to time with arsenate of lead, you will probably be able to keep the disease in check another year at least, that is how we were told the asters seen at Burpee's trial grounds this year were successfully grown.

Green and White Flies

I have trouble with green fly on my Jerusalem cherry. I have syringed with soap suds and last year tried kerosene emulsion, which almost killed the plant. What quantity can be safely used? Also, is there anything that can be done to kill white fly?—C. J. T., Mass.

—FOR the green fly on Jerusalem cherry, use the standard kerosene emulsion, half strength. Ordinary soap solution ought to be quite sufficient to get rid of these pests. Wherever the white fly has been brought under control it has been done by treating it as a scale, and by spraying with either kerosene emulsion or strong soapy water. Whale oil soap or any other caustic solution may be used, but the odor and the danger to the plants are objections so long as the milder measures suffice. As the pests are on the under sides of the leaves the spraying must be from beneath. And as the film of the soapy solution is likely to close the leaf pores, a spraying with clear water should follow in a day or two.

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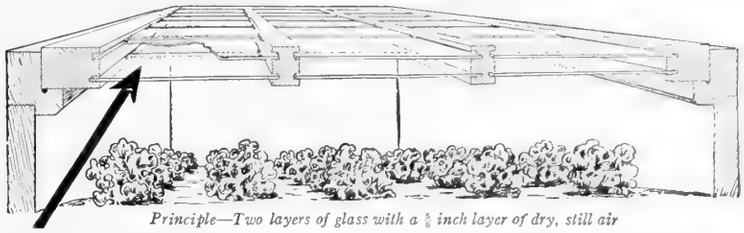

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German Seeds and Manures

Sir:—With reference to a paragraph under the above heading which appears in your issue for September 5, we should like to be allowed to say that ne er has there been such a prospect of an abundant harvest of flower seeds as is promised this year at our Reading trial grounds.

At the present critical time, when supplies from Continental sources are cut off, we are particularly fortunate in having acquired the grounds at Langley, Slough, (occupied until twelve months ago by Messrs. James Veitch & Sons), for here, too, a similar bountiful yield is anticipated. No uneasiness, therefore, is felt by us on the score of a short supply of seeds.

Royal Seed Establishment, Reading.

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(Signed) SUTTON & SONS

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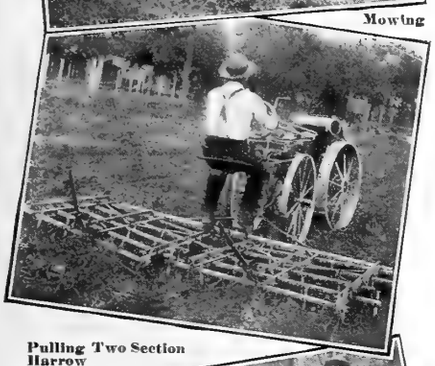

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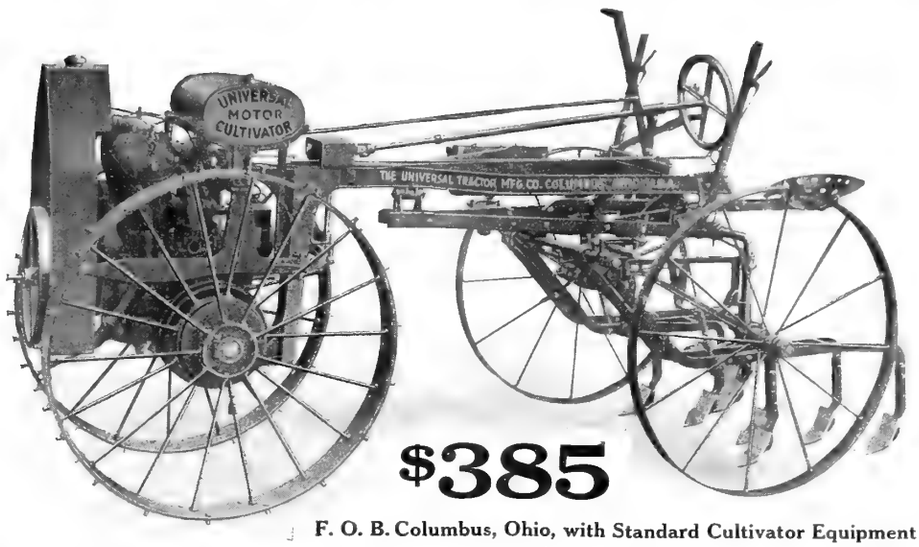

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The Universal Tractor Mfg. Co., 2035 South High St., Columbus, Ohio

Money in Peaches

WE HAVE two acres about seven miles from a large city and, among other things, fell heir to twenty peach trees when we bought the place. The first year they bore only a few small peaches and we decided they needed expert attention. Finding an old gardener in the neighborhood who understood pruning and spraying, we had him put the trees in good shape for us. He pruned them thoroughly and sprayed with lime and sulphur before the leaves were out. His charges were $7.50. That year we had all the peaches we wanted to eat, preserved three bushels and sold $13.00 worth to a city grocer. We also gave away five bushels. The following year the gardener's charges were the same and the results as follows: 59½ bushels sold to city grocers, $85.70; 12 bushels given away to friends; 6 bushels canned; and as many peaches as we could eat at three meals a day! We have a small automobile and when I took my husband to town in the mornings, I would deliver my load, taking back enough baskets for the next delivery. The peaches are Smock of a good flavor and fairly large. They are picked and delivered so soon afterward that there are no spoiled ones. We are putting in twenty new trees now, to be ready for the time when the old stock ceases to bear. Good varieties can be purchased for twenty-five cents apiece, so that the initial outlay is small.

Cleveland, Ohio. KATE B. BURTON.

A Home Made Peach Picker

I HAVE a home-made picker for ripe peaches that serves me better than all the patent wire-contrivances and bag-pickers on the market. The usual device knocks off as much fruit—of the best dead-ripe fruit, anyway—as it gathers; and the better the sort of peach and the riper and choicer the specimen, the surer it is to fall and break when the wire scoop goes floundering among the branches.

Two strawberry baskets set inside each other to give firmness, a very light slender pine rod, and a bit of cigarbox nailed across the end of the pine pole. Three long carpet tacks nailed through the bottom of the strawberry boxes so as to fasten them firmly to this wooden brace. Behold! A light, capacious picker which can be operated directly underneath a bough, instead of at an angle as the wire scoop or bag-picker has to be used. If the strawberry-box picker knocks a peach from its stem, the fruit rolls safely into the wide basket.

On my home trees I have found the device to save twenty to thirty per cent. of the crop that usually went to destruction in the wastes of gathering.

Penna. E. S. JOHNSON.

Where to Plant Carolina Poplars

OUR city's costly experience with Carolina poplars leads me to sound a note of warning to people who may contemplate planting them along walks for quick shade. They proved such a nuisance because of the roots interfering with sewer pipes, upheaving cement walks, etc., that the city government ordered their removal; consequently, some of our streets will be without shade for several years to come. Those who planted them in their yards have difficulty making anything else grow in their vicinity, for the roots spread so that they sap the nourishment and moisture from a large area of ground and crowd everything else out. The proper place for this tree seems to be along country roads etc., to serve as a windbreak.

Traverse City, Mich. MARY RUTNER.

Coal Ashes for Dahlias

DAHLIAS are one of the most difficult plants to raise successfully, especially the finer varieties. They often "run to leaf" as the old saying is, and the flowers are scarce and inferior.

When fires are in use, dump some of the coal ashes in a corner of the garden, level the place in the spring, and in it plant your dahlia tubers. When the stalks grow, remove the weaker ones, leaving one strong and vigorous stem, for your future plant. When they begin to bud apply fertilizer generously. The plants will be fine and the flowers large, perfect and numerous.

Massachusetts. FLORENCE SPRING.

The Readers' Service will give suggestions for the care of live-stock

THE TALK OF THE OFFICE

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra.*

PENSIONS AGAIN

THERE has been much talk about Prussian militarism: let us look at a few facts in this field drawn from the report of the Commission of Pensions, U. S. A., for the year ending June 30, 1914.

There was paid out during this time for pensions alone $172,417,546.26. This item, combined with our expenditure for the army and navy, gives the American Republic a military budget of $466,380,266. The German Empire, the greatest military power, spent in 1913 $491,775,800 for similar purposes. In other words, the United States spends nearly as much as Germany. Our federal budget, exclusive of the postal service —which need not be counted, since these expenditures are reimbursed by postal revenues— amounted in 1913 to $748,703,574. That is, the United States spends much more than half its income on its army and navy, past and present.

$27,532 of our pension disbursements, for the year ending June 30, 1914, was paid for services rendered in the War of 1812, *fought and ended 102 years ago.*

$1,060,530 was paid for services rendered in the war with Mexico *which ended in 1847, or 76 years ago,* and during the last year 85 *new* pensions were allowed for services in this old war.

$163,377,542 was paid for services rendered in the Civil War, *which ended nearly fifty years ago,* and 17,857 ***new*** pensions were granted for services in that war.

When it comes to the Spanish-American War the figures are more moderate; only about three and a half millions were paid out; but the organization to secure pensions for this war is only getting started, though there are even now on the pension rolls more individuals than ever saw service at the front in that war.

As a part of the showing, it is also well to mention the fact that thousands of private pension bills pass the House and Senate —so many that the clerk no longer has time to read the names of the people benefited, they are simply passed in "bunches." Many bills are passed, also, to secure "honorable discharge" papers for people who couldn't get them at the time of the Civil War, now about fifty years back. There were in the Civil War about 125,000 deserters; Congress has passed blanket laws giving most of these "honorable discharge" papers which automatically carry pensions. Cases of desertion and dishonorable behavior too atrocious to be covered by these general laws are taken care of in special bills. Grover Cleveland studied and vetoed hundreds of private pension bills of deserters, of frauds who never enlisted, and of claimants who had "pulls" with Congress but no right to pay from a generous posterity. His administration was the only one so far to face the facts about pensions, and his own Congress gave him practically no help. Two or three conscientious pension commissioners, notably Henry Clay Evans in 1901, have called attention to the fraudulent character of the pension rolls, without making any impression on Congress.

The Government also supports, and very properly, 12 old soldiers' homes at a cost (last year) of $1,335,000, where 23,051 old soldiers are kindly cared for, in addition to receiving their pensions; but if you will read the *Congressional Record* you will be surprised to see that most of the speeches referring to pensions speak bitterly of the "illiberal" treatment of the old soldier.

Sensible and even kind-hearted Americans often ask: How can such things be? How is it that all the people of the United States are taxed to pay over $540,000 every week day, including holidays, for services rendered in wars 102, 67, and 50 years ago?

The answer is known, of course, to every one—and therein is the scandal of it all: there is no Congress nor party which is willing to face the unfavorable voting influence of the organizations banded together to get this great pension fund, and as the years go by the pension graft grows by new laws increasing pensions and bringing thousands of new pensioners on the rolls.

Four years ago the *World's Work* published a series of articles exposing some of the worst of the pension practices, but the publishers cannot flatter themselves on the results. Within a year the Democratic House passed a new bill which would have added $75,000,000 a year to the expenditures, but owing to the influence of the Republican Senate the bill only added about $25,000,000, and put on the rolls many thousands who had not been eligible up to that time.

The *World's Work* will try again carefully to put before its readers information of importance on the subject, in the earnest hope that the people who pay this huge tax may bestir themselves to regulate the unmoral and wasteful pension legislation without depriving the soldiers who were actually disabled from disease or wounds, or their legitimate dependents, of payments to which they are entitled.

Also in February the *World's Work* will discuss at some length, marshalling new facts,

"CALMNESS, COMMONSENSE, AND THE NATIONAL DEFENCE"

Have we any 42 centimetre guns?

How many submarines have we got?

Have we motor transports like the Germans?

Is our artillery as effective as the French?

The February number of the *World's Work* will explain just what we have and just what we have not. It will go further. It will explain exactly what kind of an army we should have to meet the attacks of any possible foe. It will do the same for the navy.

The number will be a manual of national defence explaining:

What We Want an Army and Navy For.

What Kind of an Army and Navy We Need for These Purposes.

What Kind of an Army and Navy We Have Now.

Looking at it all calmly the facts irrefutably demand that we stop wasting money and adjust our military and naval establishments to our needs, which happily for us is not an expensive process and does not necessitate any militarism. The facts call for commonsense, calmness, and economy.

THE GARDEN MAGAZINE

CONTENTS

JANUARY 1915

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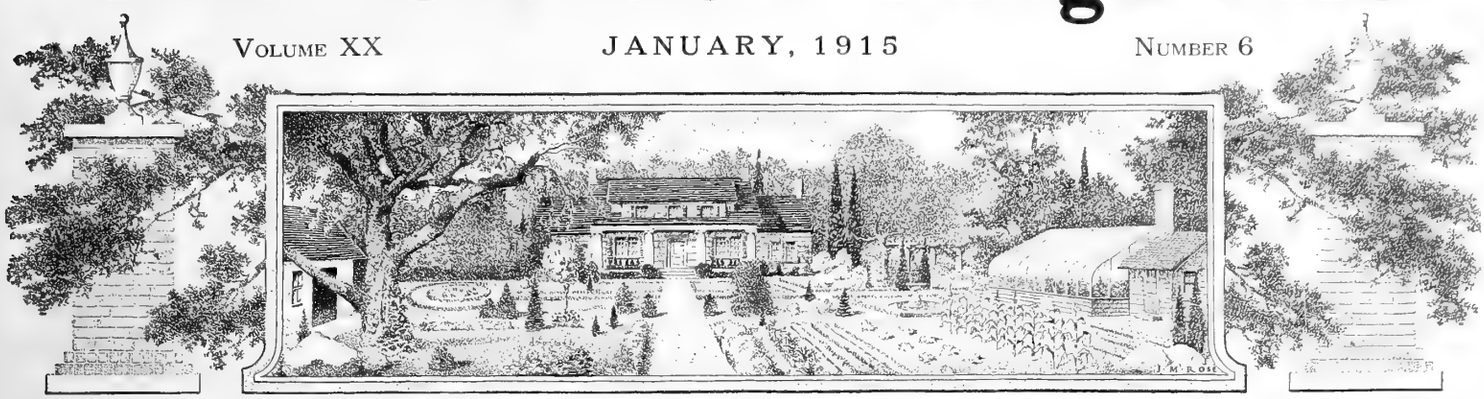


THE MONTH'S REMINDER

COMPILED WITH SPECIAL REFERENCE TO THE HOME GARDEN, FROM THE TEN YEARS' DIARIES OF A PRACTICAL EXPERT GARDENER

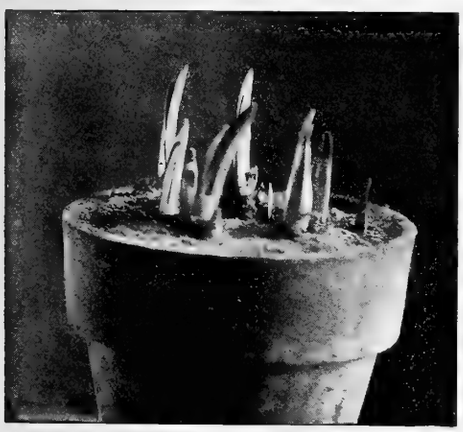
For reckoning dates, the latitude of New York City is generally taken as a standard. In applying the directions to other localities, allow six days' difference for every hundred miles of latitude

JANUARY is a very quiet month for the gardener, unless he has a greenhouse, when things should be moving along merrily. Yet, while our outside activities are halted our minds should be working on schemes that are to better our garden or grounds for the coming year. It is thoughtful planning followed by proper execution that produces results.

Sit down now at your desk and send for the catalogues that you may need. Read up carefully before actually ordering. Set your mind to work now on improvements, make notes and work out a campaign; figure how you could improve your vegetable garden, giving you more of the vegetables that you like, and fewer sowings of those you care for the least. Do the same for the flowers. Then read the articles on the following pages (190 and 194.) Figure out also how you could improve your fruit trees, or perhaps plan a new orchard; start a campaign against the "bugs" of all kinds; see if you can't find better watering facilities for the dry weather. If your garden is late and wet, figure out a drainage system; perhaps some changes to the place itself such as a path or road, a new gateway, some planting to be shifted. It is possible to go on indefinitely thus suggesting some little item that may have a tendency to better things, but you must apply yourself to your own problems, and decide what is to be done. Now is the only time you will have for this purpose, as next month the active duties start again.

BULB forcing is rather simple from now on. Any of the bulbs can be flowered very easily and should be brought in as required. Don't neglect to water the bulbous plants rather freely, and feed them liberally with liquid manures *after the bud appears*. To prepare liquid manures, put about a bushel of manure (sheep or cow preferred) in a bag, and suspend it in a barrel of water; when the water is the color of weak tea it can be used, gradually increasing the strength at subsequent feedings. The more concentrated manures can also be used, using a much smaller quantity, say about one fourth of a bushel.

Forcing Bulbs



Forcing of bulbs can be carried on now. Bring into light at this stage

BULBS keep well, and when forced in boxes or pans are easily handled. If you are likely to have too many flowers at one time, they can be kept for days or even weeks, by putting the boxes or pots in a cool dark cellar. They should be placed in the cellar before the flowers are too far open. I have kept Roman hyacinths in the very best of condition for three weeks, but you must have a good place where the flowers can be kept moderately dark and where the temperature can be kept around 40 to 45 degrees F.

Bulbs for Succession

DON'T throw away the bulbs after you have cut the flowers. To be sure they are of no further value for forcing, but they can be planted in inconspicuous places outdoors next summer, and will produce results the second season. This is especially true of narcissus, which can be used for naturalizing. But don't look for results the first year. If you are going to use the bulbs for planting out after they have finished flowering, it is better that they be gradually dried off after the flowering period has passed. They can be dried off entirely by late spring, when they can be immediately set out.

Saving the Old Bulbs

BRANCHES of spring flowering trees and shrubs, such as peach, pussy willow, forsythia, magnolia, Japan quince, plum, apple, etc., if cut now and placed in vases of water, and put on benches in a warm greenhouse, will flower almost immediately. Simply spray the branches occasionally and change the water once in a while.

Flowering Shrubs

PREPARATION can now be made for seed sowing. It will not be very long before we have plenty of work to do in spring seed sowing and we will need plenty of good light soil for this purpose. Now is the time to prepare! Get plenty of leafmold to mix with the soil for seed sowing. If there be none readily available order a bag or two from your supply house, as it is indispensable for this work, or use the commercial forms of humus.

Getting Ready to Sow

POTS, pans, and boxes for seed sowing must now be made ready. Wash the pots and pans,

Get ready now for sowing seeds in heat next month. Get all supplies in hand

the flats, if used before, should be dried out thoroughly and given a coat of whitewash. If you are short of pots and pans for other work in the greenhouse order some now so they will be on hand when required. You will need a number of flats for the spring work and this is a good time to build them.

Pots and Pans

GARDEN planning however, is the big task for January. This may seem absurd with the spring some months away, but, the one that plans ahead will surely have better success with his garden than the person who puts off everything until the very last moment. Make a plan of your garden, see if you can get an arrangement that will economize space, plan the rotation of crops, and plan to have the taller vegetables in the rear as a background. Arrange your garden so that it looks well, but don't allow its looks to interfere with productiveness. Figure on trellises for those vegetables that require supports—such as tomatoes, lima beans, etc. Wooden trellis of all kinds are fast giving way to ones of iron; and while the first cost may be more, the iron trellis will prove cheaper over a period of five years. Further than that it looks much better than the wooden trellis.

Making Plans on Paper

MAKE out your seed order (after studying the catalogues) and send it to your seedsman. The result of early ordering is that you get what you want, and no substitution is necessary. Of course every one knows that a really reliable seedsman would never send you cabbage for cauliflower; but some man might be tempted to send you Early Erfurt Cauliflower for Early Snowball. Therefore, order early. Furthermore, seeds keep well and they will be on hand when required. For years I have had my spring order for flower and vegetable seeds made up and mailed to the seedsman the first week in January. And by the way, don't be scared about there being no supplies because of the war. Everything has been provided for this season's demands.

How about the Seed Order

DURING January we sometimes have severe sleet storms which are injurious to evergreens. When these storms weigh down the branches to any extent go around with a wooden rake and knock off the ice. Heavy snows can be shaken off.

As suggested last month this is a good season to move any large trees, the idea being to have the ball of earth containing the roots frozen so that in shifting the roots are not disturbed.

Out on the Ground

AN AMERICAN SEEDSMAN'S TOUR INTO EUROPE'S SEED GARDENS LOOKING FOR NOVELTIES THAT FIT OUR GARDENS

By Adolph Kruhm,
Ohio

I AM after novelties for America." These words proved the "open sesame" on a trip through the seed gardens of Europe last July, for America not only absorbs "novelties" like a sponge does water, but also pays the highest prices for them. Many times I wished I had been more explicit in explaining at the start that I was after "worth-while" novelties from an American standpoint.

One of the new plants seen in the author's travels. A white lobelia suitable for baskets, etc.

I tried once or twice, when the outlook was not particularly promising, to explain what I really wanted—a private view, or to speak of what was yet to come before the kind of people who read THE GARDEN MAGAZINE, so that I could give them an expert advance critique! But I soon discovered that, from the standpoint of the European grower, *all* his novelties were "worth-while" or "he wouldn't grow them."

Let it be said in favor of the European seed growers that they all are serious in their intentions. If, in their zeal, they often miss the mark, they still do sufficiently good work to call for an appreciation of their efforts. The biggest stimulus in this game of producing novelties is competition. They all try to "beat each other to it" and it is not an unusual happening that a novelty brought out by one firm one year will be presented in *improved* form by another firm in the same town the year following.

The case of Cyclamen Rokoko Victoria and Rokoko Victoria Perfecta illustrates this. Two years ago a German grower introduced Rokoko Victoria—a new type of cyclamen with fringed petals. It has white flowers, red eye and the petals are edged with a scarlet fringe. Last year, another grower took this new type of Cyclamen, in which he saw great chances of improvement. He crossed it with Cyclamen Sunray—a strong free-flowering sort of the old type with smooth petals. The result was Cyclamen Rokoko Victoria Perfecta, a beautiful delicate rose or lilac colored sort with carmine red eye and fringe, which will be fully described among floral novelties later on.

Improvements in all popular classes of vegetables and flowers by either selection or cross-fertilization are being carried on simultaneously and along similar lines by all the important seed growers of one country. In Erfurt, Germany, for instance, we find, in a city of about 150,000 inhabitants, 10 seed houses, every one of which is at least as large as our largest American Seedhouses. While there is a good deal of competition, there is also a great deal of friendly cooperation.

There are, fortunately, a good many growers who think more of their reputation than of financial rewards gained through "hurry-up" methods. This was forcibly impressed upon me during my visit with one of the most renowned houses on the continent. In walking through the gardens I discovered an entirely new form of Fuchsia triphylla, with trumpet-like, stiffly erect flowers, instead of pendant flowers to which we are accustomed in Fuchsia. The whole thing was so absolutely unique and entirely unexpected that it struck me at once as a novelty indeed.

"Could I take a photo of this fuchsia" and "would they please furnish me with sufficient facts concerning its origin to enable me to write about it?" A polite, but firm, "No" was the answer. Why?

Because it took the experts of this establishment three years to nurse this new type to this point. Here and there—they pointed out the plants—a specimen would still show a tendency to revert to the original form with drooping flowers. They are willing to work three years longer before offering this new type for sale, in order to eliminate this tendency. Then the world will really have something well "fixed" and worth-while—something that would measure up to the high standard of perfection striven after in that establishment.

HOW NOVELTIES ORIGINATE

Novelties in both vegetables and flowers, are evolved by either selection or cross-fertilization. Both methods are good, although novelties evolved by cross-fertilization are more apt to revert to one or the other of the parent type from which they came. In working to produce novelties by cross-fertilization, the gardener takes the pollen from one flower and carries it, by means of a fine brush, to another flower with different qualities as to color, size, or shape.

The pollenized flowers are then marked with strips of colored cloth or raffia. When the seeds mature, they are carefully saved, handled separately from the rest of the crop, and are sown with special care the following spring. A motley assortment of seedlings is usually the result. As a rule, some of these seedlings show more or less of the improvements which the gardener set out to attain. After that, the process of evolving the "novelty" becomes a case of patient selection and elimination of undesirable elements.

Novelties from crossing are fickle in their habits and it often takes many years to eliminate those traits which cause a novelty to be of doubtful value to the grower. Cases are cited among flowers where even after many years of selection, it proved utterly impossible to get the new sort to come true to the desired type. Conscientious growers will, in such a case, state frankly when sending out such novelties, that "only 75 per cent. of the flowers come double" or "true to color" or make such other qualifying statement as may be needed.

Evolving novelties by selection calls for a high order of intelligence. The gardener must have in mind a firmly fixed ideal, and must not lose sight of that ideal during a long period of years.

The process of crossing in detail; applying pollen to the pistil after removing the stamens

WHERE NOVELTIES COME FROM

All European countries, engaged in seed production, furnish their quota of new things every year. England favors us with extra fine peas, cabbages, rutabagas, swedes, beets, and some flowers. English peas I found to be of a greener color than those grown anywhere else; also, it will prove difficult to find better rutabagas and Swedish turnips than those which come from England. Holland leads in cabbage, cauliflower, radish, spinach, and turnips. The Dutch growers export five million dollars' worth of cabbage, cauliflower, and spinach to Great Britain every year—proof of the quality of these products of the quaint Netherlands. France surpasses in beets, celery, onions, and radishes. Seventy-five per cent. of all the beet, celery, onion, and radish seeds imported by us originates in France. Germany contributes lettuce parsley, carrot, parsnip, and 90 per cent. of all the floral novelties.

Nobody has doubted Germany's leadership in the production of "worth-while" floral novelties since 1822 when Christian Lorenz evolved the first pure yellow variety of Ten-Week stock.

NEW VEGETABLES THIS YEAR

In England I found two splendid new peas ready for introduction. "First of the Season" is an extra early wrinkled sort producing plenty of fine pods on vines about 2½ feet high. Pods usually contain about eight peas of the most delicious flavor. If this sort can be acclimated I would not be surprised to see it take, in due time, the place of Gradus, which all of us know as a notoriously "shy" yielder. The other new pea is "Laxton's Superb"—a smooth, blue seeded sort producing pods twice as large as those of the popular Pilot. Since it matures fully as early as Pilot it should prove a winner as a market gardening variety. Vines grow about 2½ feet tall, are very vigorous, and bear big crops.

It was in Witham, county of Essex, England that I found a grower busy on the difficult job of ridding Swiss chard of its "earthy" flavor. Swiss chard is so easily grown, and produces such big quantities of splendid greens, that it deserves to be more generally cultivated than is the case to-day. Its one drawback has been the decidedly "earthy" flavor and our English grower has succeeded in almost eliminating it. The new sort—called Cooper's Mammoth—is of distinct pale green color with leaves of truly mammoth dimensions. The increased size of the leaves has not affected the brittle quality of the leafstalks or "ribs" which may be served as a good substitute for creamed asparagus.

In Holland I found a vegetable that is not exactly a novelty and yet, it is so little known or grown in this country, that I consider it worth mentioning. Rumex patientia is a sort of perennial spinach that stays out in the open ground all winter, comes up very early in the spring and may be cut continually all summer. In the middle of July, while looking at fields of it in North Holland, the second crop was just about six inches tall and there was surely as healthy a mass of deep green, juicy leaves as I have ever seen. As far as I could learn it is a species of dock and the Dutch grower was inclined to call it Winter Sorrel. Whether it is identical with the sorrel, listed by some of our seedsmen, I cannot tell.

Hand work on crossing petunias to combine in one plant the desired characters now found in separate specimens. It may take many years to "fix" the combination by successive crossing and selection

In France, the number of eligible novelties proved surprisingly small. There were a few special beets and some oddly shaped muskmelons. The latter are hardly suitable for this country and the quality of our native varieties seems far superior to me.

Among the real surprises of my tour, I count a beautiful white pepper, which I found in Germany. White King, as the variety is called, is of a creamy white color, which the peppers retain until they have reached full size. They grow to be

Opening a miniature flower to remove the stamens before they can shed their pollen

about four inches long and three inches in diameter at the base. As the seeds begin to ripen, the pepper turns yellow which becomes a glowing orange when the fruit is dead ripe. The flesh is very mild.

There was of course, the customary run of new beets, savoy cabbages, lettuce, etc., but none of these impressed me as being great improvements over types and varieties already well established in this country. So I concentrated my attention in Germany on

THE FLORAL SURPRISES FOR 1915

*Alyssum Benthami compactum lutescens** is the rather impressive name of a very attractive new yellow sort of the popular dwarf sweet alyssum. A few yards beyond grew its counterpart in shape and size, but of lilac color—Lilac Queen. Both are of erect growth, with dense panicles of shapely flowers. These two new alyssums will afford a splendid chance to put variation in the color scheme of a border.

The blackest, and without question, the most beautiful dark colored snapdragon is *Antirrhinum majus grandiflorum Othello.* Its coloring reminded me very much of that found in Othello sweet pea. While most dark colored snapdragons have a dull, velvety texture, Othello flowers show a deep, silky sheen not found in other sorts.

While discussing snapdragons, attention was called to the extra large-flowering double yellow and double white snapdragons introduced a few years ago. My guide expressed great surprise that these glorious new hybrids did not attain greater popularity more rapidly in America than the sales would indicate. The double snapdragons need more advertising! Their flowers are distinctly different from those of the old type. Numerous twisted and twirled petals grow between the upper and lower part of the corolla which makes up the snapdragon flower. In other words we still have the "dragon" but the "snap" has been filled with petals. In a measure, this new type is a freak—but it's a beautiful freak.

Of course, I found the customary dozen or so of *Aster Novelties*—some good, some mediocre, and a few that I thought were worthless. Among those that I considered worthy of special notice, a Dark Blue Christmas Tree Aster of the Comet type leads. Then there is a dwarf, white Hohenzollern Aster, tinted rose, also a very early flowering Deep Scarlet Parisian Aster, which was in full bloom at the end of July. A deep Violet Early Wonder Aster and Noble Asters of Apple Blossom or rose color wind up the list of Aster novelties which I recommend for trial to American home gardeners.

I have already alluded to a new type of Cyclamen which, for flowers of grotesque beauty, can hardly be surpassed. *Cyclamen Persicum giganteum Victoria perfecta* is the result of a cross between old-fashioned Sunray and the fringed petaled Victoria, and is surely a great improvement over the latter. The foliage is beautifully marked and the tints in the flowers are greatly intensified. The flowers measure 2 to 2¼ inches across and are supported by long, stiff stems which proudly carry their delicate loads well above the foliage. The ground color of the flowers varies. Part of them are of a delicate rose in which case the "eye" and deeply fringed edge of petals is of bright carmine color; other flowers are of lilac rose color, with a contrasting dark crimson eye and edge.

Walking through the multicolored grounds of one of Erfurt's leading establishments, my eye was caught by a bright patch of golden yellow, which, at first sight, I took for "golden orange daisies"—(*Dimorphotheca aurantiaca*). A closer examination revealed a brand new annual from South Africa—*Gazania longiscapa*, which, I believe, will prove a real rival to the Golden Orange daisy in this country. *Gazania longiscapa* has several points in which it outclasses Dimorphotheca—it has more and better foliage; the plants form neat little bushes, a foot across and 6 to 8 inches tall; the substantial leaves are of a dark green color on the surface and a white, wooly texture on the reverse side; above these compact plants rise the strikingly beautiful flowers which differ from everything else I know. The ground color of the flowers is a bright golden yellow; the centre is a yellow disk, around which, close to the base of the ray florets, runs a brown zone with silvery-white spots. This zone, in turn, is surrounded by a ring of still darker brown color. Each petal bears a brown stripe on the reverse side.

The petals of this Gazania are far more substantial than those of the Orange Daisy and for this reason, it should prove a better cut-flower. The plants prefer a dry, sunny situation and will bloom freely throughout the hottest summer. Easily grown from seed and has I think a great future as a bedding or border plant.

It was my good fortune to see the original mother plant of the new snow-white hanging Lobelia in full bloom. *Lobelia hybrida pendula Angelina* is a wonder—they should have called it Snow Queen. Imagine, a plant with wiry branches, three quarters of a yard long, clothed with delicate, light green foliage which, in turn, is almost smothered by hundreds of pure white flowers and you have a fair idea of this new Lobelia. The flowers are about three quarters of an inch in diameter and there were at least five hundred of them on the plant when I photographed it. As a plant for hanging baskets for verandas or for porch boxes this new trailing Lobelia is unique. It is easily grown from seeds and blooms a long time.

Another new form of Lobelia, I encountered is *Lobelia erinus compacta duplex azurea* (one cannot deny the fact that the Germans are very particular in their adherence to descriptive nomenclature! But it would help the sale of novelties a whole lot sometimes if they chose names that everybody can pronounce, and easily remember.

Now, this particular new Lobelia happens to be a double flowering form of the very popular dwarf blue bedding Lobelia Emperor William.

Those who are fond of that modest and well-liked annual Myosotis or forget-me-not will be pleased to hear about a new sort with strikingly beautiful, golden yellow foliage, *Myosotis alpestris Victoria foliis aureis.* The plants are of compact, globular growth. The foliage is bright yellow and the large flowers, which are carried well above the leaves, are sky-blue, a beautiful contrast, especially striking when the sun shines on the plants. It should prove a success in those eastern states which enjoy a moist climate and have moist soils.

Six weeks have been added to the blooming time of pansies out-of-doors by the originator of the new winter-flowering type of *Viola tricolor maxima.* The plants of this newest type are so hardy that frost never hurts them. The flowers almost appear under the snow. Beginning in February, when the common pansies just form buds, one may look for flowers on these extra early bloomers and these flowers are of really good large size. Though the plants begin to bloom early, they keep it up as long as any pansies. Of course, during the summer, the flowers get smaller. But what they lose in size, they gain in very pronounced and pleasing fragrance.

Florists and landscape gardeners will welcome this new class of pansies which, so far, contains four colors: golden yellow with dark eye, silvery white with blue eye, light blue self color, and velvety dark blue. Of course, there is a mixture and I believe that it, more than the straight colors, will be appreciated.

The man who originates a popular name for *Viscaria oculata nana compacta* (Lychnis) will receive a vote of thanks from flower lovers everywhere. With the introduction of the new dwarf form, many additional avenues of usefulness are opened for viscarias. The compact growth adapts the plants for bedding and borders. The new hybrids now offered present a perfect riot of colors, including all shades of blue and red, with many variations, except yellow. The plants are easily grown from seeds, forming in due time, a perfect pillar, 8 to 10 inches high. During the blooming season the foliage is almost completely covered with brilliant flowers, resembling at a distance those of small, single Dianthus in shape.

One final thought on this subject of novelties, which I am going to advance for the benefit of American as well as European seed growers. In striving after "worth-while" novelties, it would seem quite as important to analyze the possible market for a novelty as to investigate the pedigree of a plant. One cannot but be impressed by the terrible waste of valuable time and effort when looking at hundreds of novelties that never "landed."

*This and other names are quoted as they stood, and do not necessarily indicate the name under which the plants will appear in the catalogues when offered to the public. The reader must study the descriptions closely and search by that means.

SOME NOTABLE NEW HOUSE FERNS

Photographs by J. H. Pepper

THE old Boston fern, long highly esteemed as a servicable house plant, has also given us a host of variations, or sports, which taken together have made a preëminent group of decorative ferns. Many of them were illustrated in an earlier number of The Garden Magazine, but new variations keep on coming and at the recent larger exhibitions these have been much in evidence.

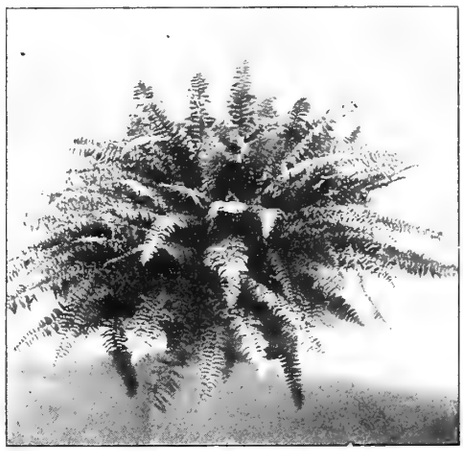
While possessing the prime characteristics of the parent — or, in some cases, grandparent — there has been found sufficient difference from the type to mark these new introductions as distinct varieties, and as particularly useful for certain purposes. All are "house-plants" in the best sense of the term, and valuable additions to the list of plants adapted to home use.

Nephrolepis Elmsfordii—A beautiful fern among the "lace" varieties. A seedling from N. Whitmani. Its globular form makes it excellent for table decorations. Originated by Scott Bros.

Pteris Parkerii—A valuable addition to the Pteris family, in that it grows to large size. Well suited for house use. In this respect it is as tough as an aspidistra. Originated in England

Nephrolepis John Wanamaker—Really a much improved N. Scholzeli. It is not a crested variety, but the pinnae are beautifully undulated. Most graceful in form, it should become a favorite. Awarded the silver medal of the Society of American florists. Originated by the Robert Craig Co.

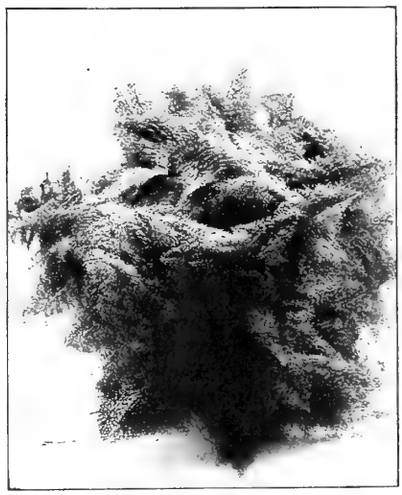
Nephrolepis Smithii—An improved form of N. Amerpohlii. In form compact, centre firm and well set, fronds carried on wiry stems. Splendid for basket work. Originated by the Department of Agriculture, Washington, D. C.; disseminated by the Robert Craig Co.



Nephrolepis Tuberosa Plumosa—A splendid fern of the Japanese Nephrolepis type. Fronds long and narrow, pinnules plumose and of light color, giving a beautiful two-shade color effect. Strong and graceful in form. Originated by W. A. Manda

Nephrolepis Craigii—A sport from Smithii, stronger and wider fronds, larger pinnae, habit stouter and growth shorter. Fronds well suited for use in corsage bouquets or for table decoration

Nephrolepis Robusta—The strongest of all the Nephrolepis ferns, and a leader among the crested varieties. Remarkably fast grower. Winner of the silver medal of the Society of American Florists. Originated by the Robert Craig Co.



Teddy, Jr.—A sport from Nephrolepis Roosevelt; compact of habit and spherical in form, splendid for decorative purposes and as an isolated specimen

Making Plans for a Vegetable Garden—By A. E. Wilkinson, New York

CALL THE FAMILY IN CONSULTATION NOW SO AS TO PROVIDE FOR THE NEEDS OF ALL—GET YOUR PLANS ON PAPER BEFORE ORDERING THE SEED SUPPLY

SOME gardens are not planned at all, others are only half thought out, and both of these groups show lack of system.

The first things necessary are to find out, (*a*) just what vegetables are desired in the family, (*b*) just when these vegetables are wanted, and (*c*) in what amounts. This means that the entire family should enter into the work now.

Ascertain the actual size of the garden, taking measurements with a tape, yardstick, or ruler, and immediately putting them on paper; drawing lines on paper to serve as the boundaries of the plot. A scale of one inch on paper, equalling a foot in the garden, is quite a large one to use. Find the points of the compass and mark them on the plan. At the same time, find out something about the garden's surroundings, specifically:

1. *Are trees near?* They shade and take water and food from the garden.

2. *Are board fences too close?* They may injure by shading.

3. *Is water backing up on the land?* If so, it may be necessary to put in drains.

4. *Is the soil* sandy, sandy loam, clay loam, or stiff clay?

5. *Is there much organic matter*, such as roots, twigs, leaves, or straw in the soil?

6. *Has the soil been plowed and manured* in the last year or two? Most soils which have been neglected will be greatly benefited by heavy applications of manure. A good two horse load of manure for a garden 25 x 25 ft. is none too much. Plan to get enough manure. Some soils that have plenty of organic material would be greatly benefited by the addition of lime—about two bushels or one hundred pounds to a garden 25 x 25 ft. Previous to liming, the manure may be spaded in, followed by spreading the lime upon the soil and raking.

WHAT VARIETIES

You are now ready to discuss varieties. Your aim should be to grow only the highest quality. In fact, the home grower will not be satisfied with anything but the best. There are a great many varieties listed by the seedsmen and many are the same thing under different names. Only a few of each kind will be named here—those I have actually tried. The omission of any name is not to be taken as having any reflection on that name or variety. Some may be even better than those I name. The amateur from year to year should test out varieties of vegetables and establish a list of his own that will please his taste and do well under his conditions.

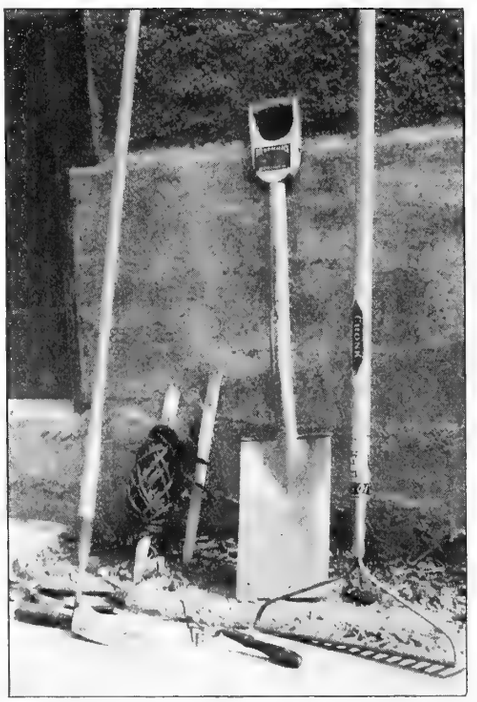
The Perennial Vegetables are those that grow in the same spot more than two years and include:

Artichoke. Green Globe. A bush-like, thistle growth cultivated for its flower bud.
Asparagus. Argenteuil, Palmetto, or Colossal.
Rhubarb. Linnaeus, Victoria.

Two perennials that are grown as annuals are:
Artichoke, Jerusalem. Cultivated for its roots.
Horseradish. Use sets of Bohemian.

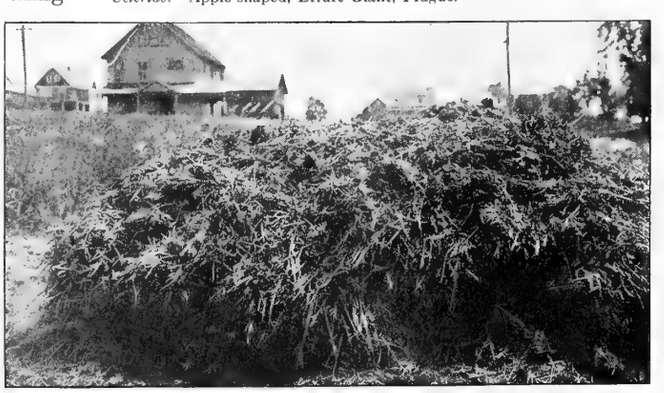
All the following vegetables are grown as annuals, that is, edible parts are raised from seed in one year.

Beans: Green snap, dwarf. Bountiful, Extra Early Stringless, Red Valentine.
—Green snap, pole. Old Homestead, White Creaseback.
—Wax or yellow, dwarf. Black Wax, Golden Wax, Refugee Wax, Wardwell's Kidney Wax.
—Wax or yellow, pole. Golden Champion, Early Golden Cluster.
—Shell, dwarf. Goddard, Dwarf Horticultural.
—Shell, pole. Horticultural, Scarlet Runner.
—Bush Lima. White Marrowfat, Fordhook, Henderson's, Kumerle's, Wood's Prolific, Burpee's.
—Pole, Lima. Challenger, King of the Garden, Ideal, Leviathan.
Beets, early. Crosby Egyptian, Eclipse, Electric, Lentz.
—late. Detroit Dark Red for deep, blood-red color, Edmands Blood, standard.
Brussels Sprouts. Danish or Long Island.



These tools every gardener must have to do good work. Buy really good tools, too; they work better and last longer

Cabbage, early. Charleston Wakefield, Early Jersey Wakefield, Early Winningstadt.
—midseason. All Seasons, Copenhagen Market, Fottler's Improved Brunswick, Succession.
—late. Danish Ball Head, Flat Dutch, Volga.
—red. Dutch, Erfurt, Rock.
—Savoy. American Drumhead, Netted.
Carrots, half long. Chantenay, One half Long Danvers, Early Short Top, French Forcing, Scarlet Horn.
—long. Danvers, Improved Orange, St. Valery.
Cauliflower. Burpee's Best Early, Extra Early Paris, Large Late Algiers, Snowball.
Celeriac. Apple-shaped, Erfurt Giant, Prague.



The gardener's bank. See that you get all the manure possible and stack it ready for use when needed

Celery, early. Golden Rose, Golden Self-blanching.
—late. Boston Market, Giant Pascal, Golden Self-blanching, Kalamazoo, White Plume, Winter Queen.
Corn, extra early. Aristocrat, Cory, Metropolitan.
—early. Concord, Crosby, Golden Bantam.
—midseason. Black Mexican, Country Gentleman, Quincy Market.
—late. Squantum, Stowell's Evergreen, and later plantings of midseason varieties.
Cucumbers. Arlington White Spine, Davis, Fordhook.
Eggplant. Black Beauty, New York Improved.
Endive. Batavian, White Curled.
Kohl-rabi. Purple Vienna, White Vienna.
Leek. American Flag, Carentan.
Lettuce, forcing. Belmont Forcing, Glasshouse, Tennis Ball, Tom Thumb.
—outside growing. (Light yellow) Salamander; (Yellowish green). All (Seasons, Big Boston, Cos White Paris, Deacon; (Red or brown), Crisp as Ice, Brown Dutch, Mignonette.
Muskmelons, green fleshed. Early Hackensack, Jenny Lind, Netted Gem, Newport.
—salmon fleshed. Emerald Gem, Osage, Paul Rose.
Onion Sets. Potato; (Red), Red Wethersfield; (White), from White Portugal; (Yellow), New York, Danvers.
Onion Seed. (Red), Red Wethersfield, Red Southport; (White), Adriatic, Barletta, Bermuda; (Yellow), Globe Danvers, Southport.
Parsnips. Early Round. Hollow Crown.
Peas. Early dwarf and semi-dwarf. Alaska, Early Bird, Eureka, Gem, Surprise.
—midseason. Abundance, American Wonder, Early Morn, Excelsior, Little Marvel, Prosperity or Gradus, Thomas Laxton.
—late. Dwarf. Alderman, Dwarf Champion, Dwarf Telephone, Dwarf White Sugar. Tall Growing, Champion of England.
Peppers. Chinese Giant, Red Cayenne, Ruby King.
Potatoes, early. Pink or red skin. Beauty of Hebron, Early Northern, Early Ohio, Early Rose, Queen.
—mid. Bliss Triumph, Eureka, Irish Cobbler.
—late. White skin. Carmen 3, Gold Coin, Green Mountain, Rural New Yorker, Sir Walter Raleigh, White Flyer.
Pumpkin. Sugar, Quaker.
Radishes, early. French Breakfast, Rapid Forcing, Red and White Rocket.
—summer. Chartier, Giant White Stuttgart, Icicle, Lady Finger.
—winter. Celestial, Long Black Spanish, Long White Spanish, Scarlet China.
Salsify. Long White, Sandwich Island.
Spinach. Giant Thick Leaf, Long Season, Savoy, Victoria. (prickly, grown differently from above.) New Zealand.
Squash, early. Bush Crookneck, Vegetable Marrow Bush, White Bush.
—late. Delicious, Faxon, Hubbard, Marrow.
Swiss Chard. Giant Lucullus.
Tomatoes, early. (Red), Bonnie Best, Earliana, Sterling Castle; (Scarlet), Chalk's Jewel; (Pink), Acme, Beauty, Globe, June Pink.
—late, (Red), Earliana, Paragon; (Pink to red), Dwarf Champion, Stone; (Yellow) Golden Dwarf Champion, Golden Queen, Golden Sunrise.
—preserving. Cherry, Currant, Peach, Pear, Plum, Strawberry.
Turnips, early. (Flat), Purple Top Milan, Strap Leaf, White Milan; (Round), Snowball.
—late. (Yellow flesh), Aberdeen, American Rutabaga, Yellow Globe; (White flesh), Snowball, White Egg, White Rock.

ARRANGING THE VEGETABLES IN THE PLAN

Now for the arrangement of the garden space. This is really the difficult part and will probably require a reduction of the number of vegetables that it is desired to grow. Especially if land is limited or companion and succession cropping not followed.

The rows in the garden may run east and west, or north and south; it makes little or no difference to the plants which way the rows go. East and west row planting has the advantage of permitting the taller vegetables, such as corn and pole beans, being planted toward the north, thereby doing away with any semblance of shading, and at the same time, they may serve as a windbreak. In order properly to space the rows and plants, it is necessary to have some idea of the habit of growth of each variety.

The accompanying plans will help. Both Plan I and Plan II are for the use of the home garden lover who has but little space to devote to the growing of vegetables.

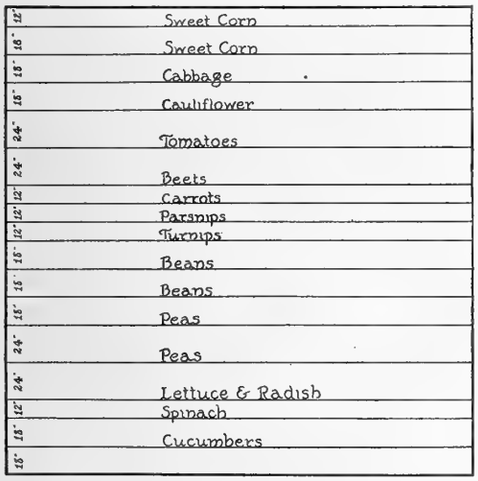
[Definite instruction as to time of planting, method of planting, the depth to cover seeds, and the distance allowed between seeds; proper time to thin the vegetables if needed; with distances between the remaining plants, will be given in tabular form in the February number of THE GARDEN MAGAZINE.—EDITOR.]

RECOMMENDED FOR THE BEGINNER

Plan I is a garden 25 x 25 ft. with the vegetables arranged in such a way that the most inexperienced person can easily carry it on. A limited number of vegetables is planned with enough space between the rows to permit proper development of each row of plants.

FOR THE MORE EXPERIENCED AMATEUR

Plan II does not differ any in the main from Plan I. However, advantage is taken of the fact that certain vegetables require space at certain definite periods, and that some vegetables mature in fewer days than others. The same crops are found in Plan II as in Plan I in the same row, but by companion and succession cropping, other crops are grown on unused space during certain times. That is, spinach is grown between rows of corn, maturing before the corn needs the space; onion sets are grown between plants of tomatoes, cabbage, and cauliflower, and pulled as rareripes or bunch onions before the space is demanded by the permanent crops. Another method is celery and cabbage following after the crop of peas has been harvested, thus obtaining two crops from the same land in the same year.



Plan I. The simplest form of a 25 x 25 ft. garden for the tyro

Plan II. Intercropping or companion crops on the garden shown above. This shows the highest efficiency on the area given

Probably there would not be enough room in a yard where Plan I or II was used for the construction of a hotbed. If this were possible, the hotbed would aid materially in the successful outcome of the plans. By the use of a one sash hotbed, all the plants of cabbage, cauliflower, tomatoes, lettuce, and celery could be raised for the garden, and the plants would be on hand when most convenient and should be of the correct size and hardness. It would be possible to use the hotbed for the production of a limited amount of vegetables very early in the spring and throughout the summer and fall. [Specific instruction on making and managing the hotbed were given in the spring months of THE GARDEN MAGAZINE last year.—EDITOR.]

RECOMMENDED PLANTING DATES

A table of suggested vegetables is here given, with the proper time for planting. No hard and fast rules can be laid down, and the following tables are, therefore, quite elastic. Let the figures represent the vicinity of New York City. If table is used south of this city, the dates will have to be advanced, if table is used north, make them later.

If a hotbed is used in connection with these two plans, the following seeds would be planted in the hotbed:

March 15—Early cabbage.
April 1—Tomatoes, lettuce.
April 15—Early cauliflower.
May 1—Late celery, lettuce.
May 15—Late cabbage, late cauliflower.

Time of transplanting plants or planting seeds in the garden:

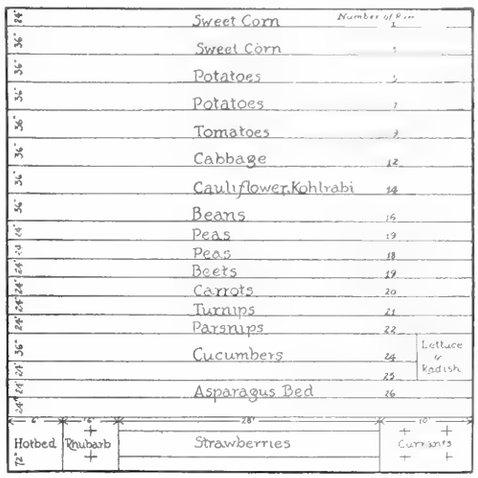
April 1–15 (seeds). Early peas, spinach.
April 15 (seeds). Beets, carrots, mid peas, radish, parsnip, turnips.
April 15–30 (plants). Early cabbage, onion sets.
May 1–10 (seeds). Early corn, radish; (plants), Lettuce, early celery.
May 10–20 (seeds). Beans, green and wax, cucumbers, late peas.
May 20–30 (seeds). Late turnips, cauliflower, tomatoes.
June 1–10 (seeds). Midseason corn, lettuce.
June 10–20 (seeds). Late corn.
June 30 to July 15 (seeds). Lettuce and radish in vacant places; (plants), Late celery, late cabbage.

TOOLS NEEDED

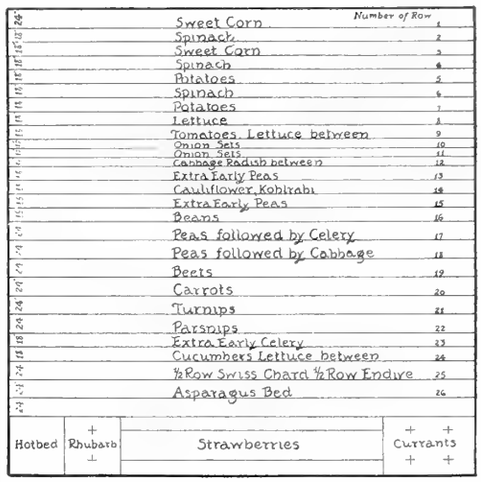
Adequate tools are of great importance, a fact too often ignored heretofore. Plans should be made to obtain the necessary tools for gardens of this size. The amount of money required for tools will not be very large. The following tools will positively be needed:

	COST
Line, 40 foot	$ .10
Trowel	.10
Spade	.75
Rake	.65
Hoe	.40
Hand weeder	.10
	$2.10

Miscellaneous pieces of wood for marking the corners of the garden, for marking rows,



Plan III. A simple scheme for a 50 x 50 ft. garden with no intercropping



Plan IV. For a really efficient garden that will supply all needs of a family during the season and give surplus for canning and for storage

stakes for tomatoes and other plants, will be found useful.

PLANS III AND IV

Luckily, all backyards are not of the same size. It is possible many times to have a larger garden than given in Plan I and II. Sometimes a vacant lot may be hired and then a fine large garden is assured. Plan III has been made outlining a garden 50 x 50 ft., just four times the size of the former plans, but still along the same general lines. Distances between plants are such that there will be no confusion arising in planting this garden by the beginner. Not too great a variety is included, still enough to meet the needs of a fairly large family. Additions have been made, and small fruits, such as currants and strawberries, have been added. A good asparagus patch and two rhubard plants are new, also a two sash hotbed.

In case the amateur is somewhat skilled in the art of gardening and wishes to utilize the garden space in a somewhat more intense way, plan No. IV, has been made having the same arrangment of the main crops as Plan III, except as regards the lettuce and radish bed. In Plan IV, companion and succession crops are used to a large extent with the main crops listed in Plan III.

With the addition of the two sash hotbed, the fruits, and perennial plants, a much more satisfying garden is assured, as the variety is greater. It is also possible by using the hotbed to extend the season of edible crops beginning early in the spring and continuing into winter.

The large garden space also permits the possibility of having some of the vegetables for winter storage. A limited amount of beets, carrots, parsnips, turnips, cabbage, celery, may be successfully retained for winter use. Then too, the increased space permits of some of the vegetables being "put up" for winter use. What is more pleasing than to have jars of fine home-raised tomatoes, sweet corn, spinach, beans, strawberries, rhubarb, and currants, for table use during the winter, thereby enjoying the fruits of your summer's labor? and, oh! how much finer they taste than those purchased! Pickles, such as vinegar pickles, sweet pickles, mustard pickles, mixed pickles, and a host of other good things may be enjoyed if the planning is correctly done and the work properly performed. Complete planting tables for this plan will be given next month.

The tools required for this size garden will of course be the same as those needed for Plans I and II. More efficient work will be performed if the garden line is twice the length of that required in the preceding plans. Provision will have to be made for the hotbeds, two sash are needed, also boards, planks, nails, and manure, and other material for the pit. If the hotbed pit is to be home constructed, then tools such as a hammer, saw, and square, are necessary. At least two cords of stable manure are needed for a garden of this size, and if the gardener is experienced, one hundred pounds of a high grade commercial fertilizer can be included.

A wheeled hand planter, such as the Planet Jr., Iron Age, Columbia, or Genung, and a wheeled tool for cultivating, known as a combination wheeled hoe, etc., would be of special value in this garden. These tools are not necessary, but they lessen the labor so materially as to make the work really enjoyable. The cost is small, being from $12 to $18 for both tools, and I really urge the investment.

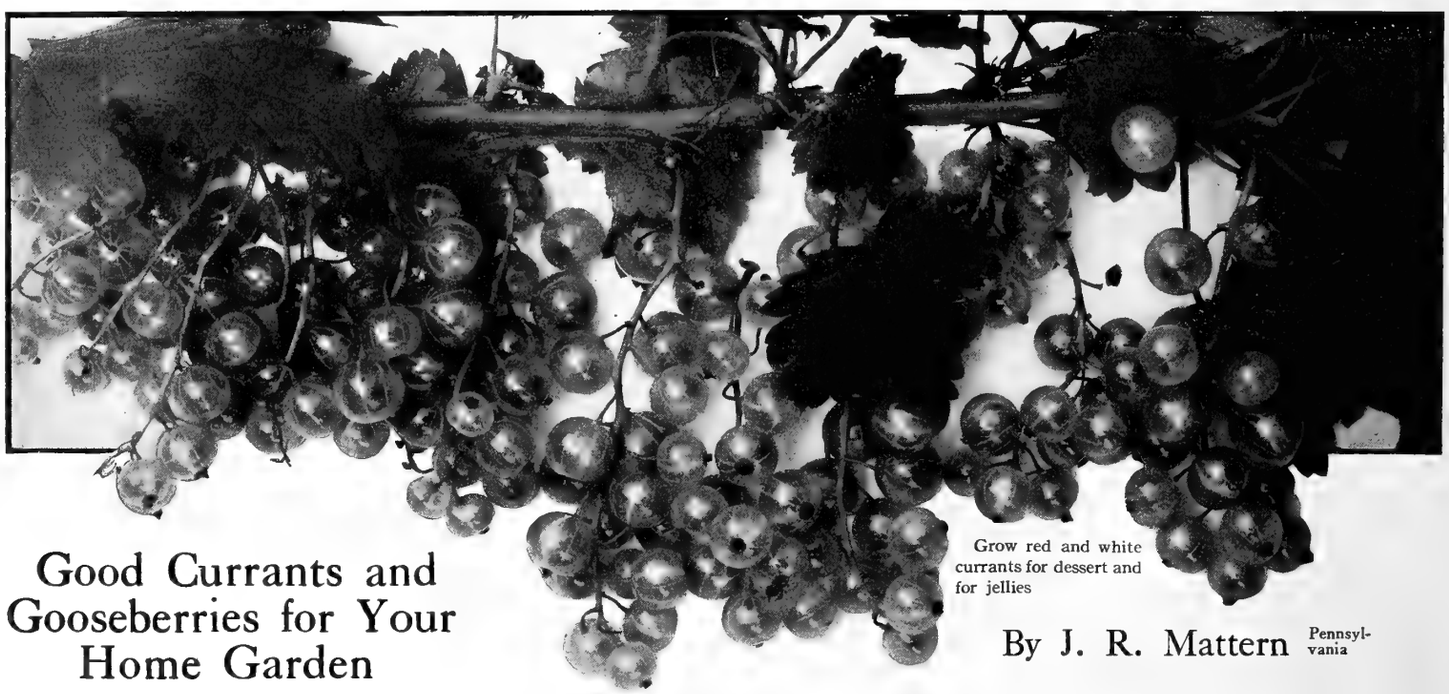
GETTING RESULTS

Plans should be made so that on the dates named the following vegetables will be ready for consumption. This would be possible if the plans outlined here and in next month's GARDEN MAGAZINE are followed.

April 1–30. Lettuce, radishes (from hotbed), spinach.
May 1–15. Beets, carrots, lettuce (hotbed and garden), radishes, spinach.
May 15–30 (from hotbeds, garden, and by using a few small sash as coldframes). Radishes, asparagus, beets, carrots, lettuce, onions (rare ripes), rhubarb, spinach, turnips.
June 1–15 (from hotbed and garden). Radishes, asparagus, beans, beets, cabbage, carrots, lettuce, onions, peas, rhubarb, spinach, turnips.
June 15–30. All the vegetables named above and from garden. Potatoes, squash (crookneck and white), swiss chard, tomatoes.
July 1–15. The vegetables named above and from garden. Beans (wax and green), cabbage, carrots, celery, midseason peas, strawberries.
July 15–30. The new vegetables ready between these dates are: carrots, early sweet corn, currants, endive, kohl-rabi.
August 1–15. The new vegetables are: cauliflower, midseason sweet corn, late peas.
August 15–30. The new vegetables are: late cabbage, cucumbers, potatoes.
September 1–15. The new vegetables are: late corn, parsnips, late squash.
September 15–30. Late beets, late celery, turnips.

The hotbeds should be planned to continue in use for raising vegetables during the fall. Lettuce, radishes, and spinach can be obtained until November 15 or even later if the winter is mild.

Plans should be made to store the following vegetables for winter use: beets, cabbage, carrots, celery, parsnip, potatoes, squash, and turnips.



Grow red and white currants for dessert and for jellies

Good Currants and Gooseberries for Your Home Garden

By J. R. Mattern Pennsylvania

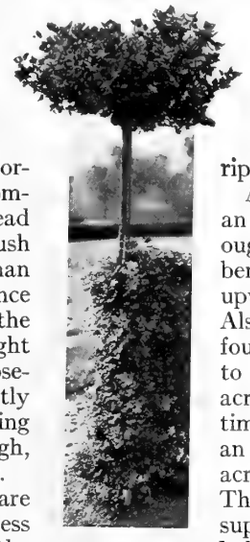
THE SMALL FRUITS GIVE INCREASING RETURNS YEAR TO YEAR, AND SHOULD BE INCLUDED IN EVERY HOME GARDEN—GET THE PLANTS IN AS EARLY AS POSSIBLE IN THE SPRING

IT IS not too much to say that gooseberries and currants are among the most useful and valuable of all the fruits your garden can grow. Most of the best jelly made is a product of the skill of the kitchen artist with the fruit of lowly currant bushes. A certain texture or inter-cell structure of this fruit makes it "jell" and likewise "jam" exceedingly well. Add to your supply of currant jelly and preserves plenty of gooseberries, canned and made into puddings and pies, and you have unequaled material for giving zest and deliciously flavored variety to your menu, all the year round. Nor is this food to be considered as froth and frills, for experience has shown that the human animal, particularly during its growing years, thrives never so well as when getting its full daily ration of just this sort of trimmings.

A planting of currant and gooseberry bushes should last almost as long as an apple orchard. The bushes must be pruned of course, and the stalks renewed from the roots and crowns every three or four years, but you seldom have to replant the bushes entirely. Currants probably yield more for the ground occupied by the bushes than any other fruit, even more than apples or peaches or grapes. The berries of both these fruits do not have to be picked and put up quickly

when they get ripe, but will hang on the bushes in perfect condition for days or even weeks.

There is an idea among gardeners not familiar with modern means of controlling insects and fungi that in many localities currants can not be grown successfully because of worms, and gooseberries because of blight and mildew. This idea is wrong. Blight and mildew and damage by worms can be prevented almost absolutely by an easy course of spraying with bordeaux mixture or lime-sulphur, combined with either arsenate of lead or arsenite of zinc. These bush troubles are no more serious than blight of quinces. In the absence of proper preventive measures the damage is serious, but the right treatment always is effective. Gooseberry bushes may be rendered partly immune from blight by opening them up and giving them enough, and not too much, of sun and air.



Making the useful also ornamental

Like raspberries, gooseberries are natives of the cooler north. Unless they are shaded and kept from the burning sun they will not bear much in the south. Currants also do better in a relatively cool climate than in a hot one, and both fruits prefer moist clay soils to dryer sandy soils. But no matter what the soil is you can grow them successfully if you will put plenty of vegetable matter into the ground and keep plenty of moisture present.

Under your apple and pear trees is a good place for the gooseberry bushes especially, and the shade will not hurt the currants. It probably will be the wisest course to plan in the beginning for some easy means of watering or irrigating the bushes regularly. In further respect to climatic conditions, it may be said that the lowlands of New Jersey and Long Island are as far south from the viewpoint of a gooseberry bush as the high mountains of North Carolina, since elevation is as much a factor in climatic effects as latitude.

All the varieties named here are of excellent quality. The white sorts of currants generally are sweetest. Black sorts make the best jelly and jam, and red sorts make the prettiest preserves, as well as the handsomest jelly. Yellow and green gooseberries are best to eat with cream and sugar, or right off the bushes. The red kinds are most attractive looking. When they are canned they retain all their beauty, and will make your mouth water as much in the winter, when you open the cans, as ripe strawberries do in June.

A home garden of an eighth of an acre in the middle climatic belt ought to contain about four gooseberry plants. These should yield upward of 16 quarts of fruit. Also in this garden plant about four currant bushes, which ought to yield 30 quarts of fruit. A half acre garden ought to have five times as many of these plants as an eighth-acre garden, and an acre-garden ten times as many. The big gardens usually have to supply the demands of a big household, and usually it is the kind of a household that likes plenty of the better kinds of provender and not so much of the so-called plain food. It is not at all hard to dispose of 100 to 200 quarts of fresh gooseberries and currants in the different methods of putting them up and preparing them for the table.

Plant gooseberries *very early* in the spring. They begin to push out their buds before the grass on your lawn begins to show green, and should be in their places previous to the time any growth takes place. Therefore see about your order now, this month! Remember that both gooseberries and currants are more or less permanent fixtures in your garden, and that you will have no chance after they are once set to remake their beds. It is well to do this little job thoroughly. Feed the plants after they are started, with sulphate of potash, ground or dissolved bone and cotton seed meal or nitrate of soda. Manure is good, of course, but you should regard it, for purposes, more as a means of getting vegetable matter into the soil than as a source of the plant food elements. Straw, cut corn fodder, hay, leaves or anything else that has grown and is free from the seeds of weeds is just a good source of vegetable matter as manure and sometimes is cheaper to get and easier and more pleasant to apply. All the commercial fertilizer even an acre garden will require will not seriously undermine your bank account.

Get your plants from reliable nurserymen. After you have your start it is possible to get new plants by means of layering and root cuttings, but before you do this study the subject well. It is a bothersome process and should not be attempted unless you want to experiment. Good plants are to be bought for mighty little money in the twentieth century. Cultivate the gooseberry and currant bushes during the time from April to August of each year, then mulch them heavily, preferably with leaves, but lacking leaves, with straw or hay, and leave the mulch till time to cultivate again.

All the varieties named in the lists are hardy and if they winterkill at all it will be only a tip bud or so. Most of the sorts are descendants of American wild varieties or their hybrids. A few are English. As a rule the imported sorts are more attacked by mildew than American sorts, but if you spray as articles from time to time in THE GARDEN MAGAZINE tell you how, you will have no trouble from mildew on any of the varieties.

In Europe every garden has its currants and gooseberries, and every cook knows a hundred ways of preparing the fruit. In America it is the exceptional home garden that has either currants or gooseberries, or has enough of them, or has the improved varieties. This is unfortunate, considering the many uses and the merits of the fruit, and surprising, too, because it is so easy to plant the bushes and so little trouble to keep them in condition for heavy bearing.

VARIETIES OF CURRANTS FOR HOME GARDENS

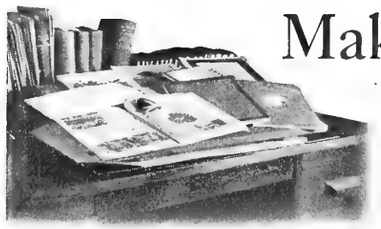
Name	*Color*	*Quality*
Wilder	red	high
Victoria	red	good
White Grape	white	high
Black Naples	black	good
Versailles	red	good
Red Cross	red	high
Perfection	red	good

VARIETIES OF GOOSEBERRIES FOR THE HOME GARDEN

Name	*Color*	*Quality*
Carrie	red	good
Downing	green	good
Pearl	green	good
Industry	red	high
Whitesmith	yellow	high
Keepsake	yellow	high
Red Jacket	red	good
Oregon Champion	green	good

Gooseberries and currants occupy little space, and in this Connecticut garden are used as a hedge

Gooseberries can be grown well in any ordinarily good garden. Why not forget tradition and try some for yourself?



Making Out the Flower Seed Order

By F. F. Rockwell, Connecticut

A HELP TO THE BEGINNER IN STEERING HIS WAY THROUGH THE CATALOGUES, POINTING OUT WHAT ARE THE MOST EASILY GROWN FLOWERS AND PARTICULAR MERITS OF EACH

IN NINE cases out of ten, the order for flower seeds is made out in one of the two following ways. The first is to sit down with a catalogue or two and a pencil and paper, and beginning with the novelty section pick out a packet of this and a quarter-ounce of that, according as we *think* we can find room: and then turn over, a page at a time, the standard varieties, picking out a package of this, that, and the other which we feel we "must" have. Then we add up the total, decide that it is really too much, read the descriptions over again, cross out a few of the higher priced items and some of the others which we feel we can sacrifice—and when planting time comes we discover that we have enough flower seeds for from two to six flower gardens the size of the one we have to plant!

The second method takes even less time and worry. The would-be gardener goes to the local store, selects packets almost haphazard; after a confused half hour he takes home a beautifully assorted collection of gorgeous things which the salesman thinks he should have in his garden, and which in all probability the salesman has never seen, has never so much as looked at over the fence! Of course GARDEN MAGAZINE readers don't do this thing. They always buy from established seedsmen who know. The result in either of the cases given is pretty sure not to be what was expected, even though there was nothing very definite in mind.

Now for the better way! The first step to take toward improving your flower garden is to abandon haphazard methods. Everything is to be gained, even time, by planning carefully and definitely just what you would like to accomplish, *before* you touch pencil to paper to order a packet of seed. A garden that is not what you would like to have it is expensive at any price; and at a very reasonable price you can have as beautiful a garden as you care to take time to plan. Saving money on your flower order is one advantage of carefully planning your garden now; but far more important is the fact that only by so doing can next summer's garden be made what it should be. It is not enough merely to select the flowers which you love most: they should be placed where conditions will suit them best, in relation to light, shade, and soil, and in regard to each other.

Before you can decide intelligently just what you want to put in the flower garden and how to arrange them, you must know exactly the size and shape of the garden and of each bed in it. Have you ever measured them? If not, do it now! Sketch the areas roughly on a piece of paper. Then at your first opportunity sit down and with a ruler and a triangle or a T-square, mark them off, everything fairly accurately, to scale.

With this, then, we have a starting point for our flower seed order. Next put down a list of the flowers which you know you will want—the good old favorites such as sweet peas, asters, nasturtiums, poppies, verbenas, balsam, cosmos, and, perhaps salpiglossis, snapdragons, and the new African daisies (Dimorphotheca).

You often find on each of the beautifully lithographed seed packages, that the seed should be started in the fall or in February under glass for summer flowers. If you have a small greenhouse or hotbed available, this is of course an easy matter, but you can start a surprising number of little seedlings in the kitchen window in time for transplanting into a coldframe in March or early April, preparatory to setting them in their permanent places in the flower bed. Cosmos, salvia, pansies for summer bloom, moonflower vines, Phlox Drummondi, and a number of other annuals and some perennials can be utilized if handled in this way.

Many of the old, favorite perennials may now be had the first season from seeds, in the distinct new classes which have been developed. Perhaps the most remarkable of these is the praecox gladiolus; last fall, early in October, I saw blooms of this remarkable strain of gladiolus as beautiful, if not quite as large, as any I have ever seen grown in the usual way (from bulbs). These were produced from seed sown in May. After the first season, the bulbs which have been formed from seed may be planted out in the usual way. The annual strain of hollyhock will flower the first season from seed sown in early May. A few plants, however, should be sown earlier and transplanted outside in May for earlier blooms. Dahlias will produce fine blooms the first summer from seed sown early in the spring. The same is true of cannas; for best results they should be started not later than February, although March sown seeds under good conditions will flower. There is also a new hybrid Tritoma (the red-hot poker plant) which will flower the first year if started in February or March. There is a particular fascination in growing any of these things especially the hybrids, from seeds: one is actually producing new varieties of his own—and although, of course, the great majority will not be any better than the standard named kinds, and most of them not as good, still there frequently appear beautiful sorts which may be kept and propagated.

Having now before you just the amount of space you would like to plant, and the things you would like to put in it, apportion the space to be given to each kind. Some of them may be arranged in *line*, especially plants for backgrounds and borders, and things which are to be started early and transplanted. But with most of the things which are to be grown directly from seed, by far the most effective results may be had by sowing them in small patches. After you have made your plan, indicating where each variety is to go, you are likely to find that the amount of space you have for planting any one thing is quite limited.

And now comes the hard part of making out the order. *Cut down your list instead of cutting up your garden.* The great secret in making out a correct seed order for the flower bed, and the one which unfortunately cannot be communicated, is in deciding what to strike out. It may be put down as an axiom that "the fewer the things planted the more effective your garden will be." One can, of course, go to the other extreme—but there is very little danger of that while our seedsmen continue to get out catalogues as attractive as those which one now receives.

This policy of retrenchment, be it understood, applies to the effect of the garden as a whole; by no means would I dissuade any one from trying out anything which looks interesting; but this can be done more interestingly, with better results, and without injuring the appearance of the garden as a whole, by setting aside a bed or two or by having a long border somewhere, inside or outside of the regular garden, where the new things may be grown together in a riot of color, each little row or test of plants, marked with a substantial label.

WHAT TO GROW

Giving advice about varieties of flowers is even more risky than giving it about vegetables. Our gustatory apperceptions seem to be much more nearly standardized than our æsthetic impressions. I mention below, however, some varieties that have seemed in actual trial particularly good.

For the average sized garden, where a considerable number of flowers is to be grown, but the space limited to each is rather small, a packet of each will in most cases be sufficient. In the following list an asterisk is put to the kinds of which more than a packet is likely to be needed, either for larger amounts or for succession sowing, or because the number of seeds in a packet is not large. Those printed in capitals (such as ASTER) are the more important ones for average conditions. The figures after the flowers indicate the usual distance apart in inches at which they are planted. If sown where they are to flower, the seed should be put in from five to fifteen times as thick as this—several seeds to an inch of row for flowers with medium sized seeds.

*Ageratum** (6–12). An old-fashioned favorite, fine for edging or for whole masses of solid color blooming all summer long. Colors are blue or white; there is a new purplish colored variety, catalogued as red. One of the best blue bedding plants.

ASTER* (12–24). Instead of trying the usual mixture, get a package each of three or four of the fine new named varieties such as Daybreak, Crego's Giant White, Mary Semple, or Electric. For a succession of blooms, make three or four planting or select different types, such as Queen of the Market (early), Royal (midseason) and Semple's Late Branching (late). Astermums are a distinct new medium late type.

Bachelor's Button (6–10). An old favorite which may be had in blue, white or pink; a new double blue variety is especially good.

BALSAM (15–20). Another old favorite, but very beautiful, especially if planted in the foreground where the individual flowers may be seen. Usually grow about two feet high, but a new strain called Goliath attains about twice that height.

Calendula (12–18). Orange and yellow tones. This blooms freely all summer long, and under varied conditions. A reliable old standby for borders or masses.

CALLIOPSIS (8–10). Another old, reliable favorite easily grown. Yellow and brownish shades, artistically formed flowers, very graceful. Golden Ray has narrow twisted petals and is especially beautiful.

CALIFORNIA POPPY* (6–8). These sown early and freely make beautiful solid masses with their orange and yellow flowers, blooming freely from middle to late summer.

Candytuft (4–12). Good for producing low growing masses of white. The other colors are usually rather harsh.

CASTOR BEAN (Ricinus) (24–36). A grand, decorative rapid growing annual for producing a tropical effect, especially valuable for tall backgrounds or for screening unsightly objects. (Very few seeds in a packet).

Celosia (6–18). Both the "Cockscomb" and the plumed types are good for borders where long lines of bright colors are desired. Pride of Castle Gould is a distinct new, very decorative type, and the "wool flower" has a densely globular head.

CARNATION (6–12). The pretty and fragrant hardy and semi-hardy carnations or "pinks" flower from seed the first season, lasting well into the fall. Wherever flowers for cutting are wanted a packet or two should certainly be included.

CHRYSANTHEMUMS (12–18). These also are especially good for cutting, in either the single or the double forms, although the former I think are the more satisfactory. They will bloom from seed sown outdoors, but it is better to start them early under glass.

Clarkia (8–10). These showy flowers come in shades of white and rose or purple. Succeeding in either sun or shade, they are very easily grown and the new named varieties show great improvement.

COSMOS (24). One of the most beautiful and graceful of flowers for late summer and autumn either cut or growing. A new early large flowered type will make its use possible where formerly it has been avoided on account of the danger of an early frost getting all but the very first blooms. Lady Lenox (pink) and White Lady Lenox are especially beautiful, but should be started early.

DIANTHUS (5–8). At least a few of these free flowering, bright, old-fashioned favorites of which there are now several named varieties, should be included in every order. Excellent for cutting, and if started early, flower practically all summer.

DIMORPHOTHECA AURANTIACA (6–8). A new very free flowering annual with very large daisy-like flowers which shade from pure white, through yellow and orange to deep salmon. This blooms continuously from June to frost. (There are approximately 100 seeds in a packet).

GYPSOPHILA* (6–15). This is the popular "Baby's Breath" and is the best flower there is for lending an air of gracefulness and lightness to a bouquet of mixed flowers or to enhance the beauty of flowering plants. Get enough seed to make three or four plantings, at intervals throughout the summer.

LARKSPUR (Annual, 6–12; perennial, 12–18). The annual will bloom within three months from seed, and the perennial will flower freely the first year if sown early enough and transplanted. Among these are to be found the best of the blue flowers.

LOBELIA (4–8). Very beautiful for low borders or edges or low spreading masses. A new variety, Tenuior, has flowers several times the size of the old, well-known sorts, and the plants attain a height of a foot and a half.

Lupine (4–8). A very pretty and easily grown flower, succeeding in poor soil and even partial shade.

Marigold (6–18). There are two distinct types, the African, which are quite tall, and the French, or dwarf. Of the latter, Legion of Honor is excellent where a long, narrow bright border is desired.

MIGNONETTE* (6–8). This should always be included in the seed order because of its unequalled fragrance. Some of the new larger flowered sorts are not as sweet scented as the older ones. Get enough seed to allow for a second planting in August.

Moonflower (12–18). This beautiful climber may be started early from seed, but it is usually safer to buy the plants.

Morning Glory (4–12). These are the most satisfactory flowering annual climbers to quickly cover trellises or unsightly fences.

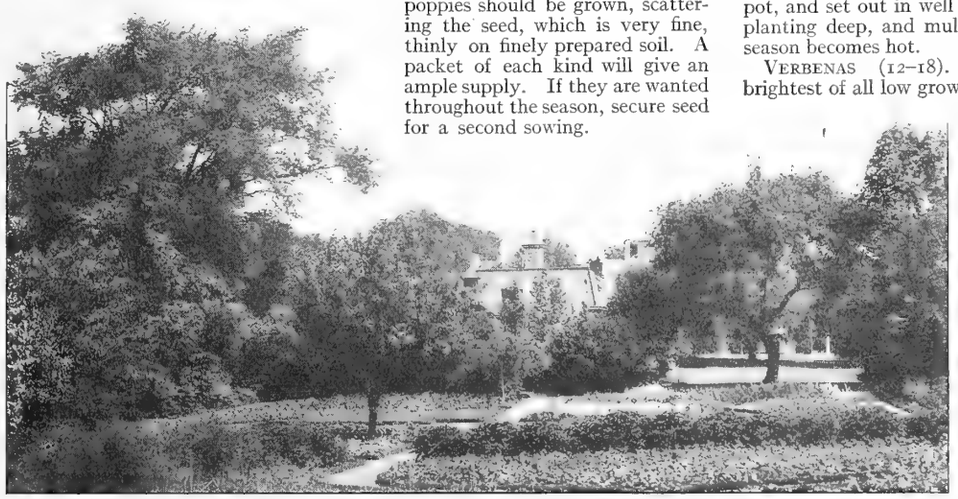
NASTURTIUMS* (5–12). It is always possible to use to advantage a generous supply of nasturtium seed, but get some of the new named sorts such as Vesuvius, Golden King, Empress of India, Moonlight, Sunlight, and Twilight. If you are familiar only with the pretty but somewhat crude colors of the ordinary mixture, these will be a revelation. In buying nasturtium seeds, remember that an ounce, costing two to four times as much as a packet contains from four to six times as much seed.

Pansy (6–8). For early flowering plants, start the seed in January or February. Seed sown outside in April where the soil can be kept moist and in a partly shaded position, will give flowers throughout the summer and fall.

Petunia (8–12). Unsurpassed where large, brilliant masses of color are desired. The single sorts are the most satisfactory for bedding, and may be sown out-of-doors in May.

Phlox Drummondii (8–12). The annual phloxes have bright flowers and bloom freely from July until frost.

POPPIES* (4–8). Where there is room, a number of the different types of annual poppies should be grown, scattering the seed, which is very fine, thinly on finely prepared soil. A packet of each kind will give an ample supply. If they are wanted throughout the season, secure seed for a second sowing.



A well balanced garden, is the sure result of a careful and early-in-the-season study of the seed catalogues and the proper determination of the amount of seed necessary

*Portulaca** (4–6). This old favorite is the best to use where a bright bed is wanted exposed to the hot sun. They will thrive on a tin roof! A new variety—Parana—has ruby red flowers about 3 inches in diameter

SALPIGLOSSIS (6–12). A flower that is not yet universally used, although it deserves to be. The flower is somewhat the shape of a petunia, but much more graceful, and is of the most beautiful velvety texture. Unsurpassed shades and pencilings of color.

SALIVA (6–18). This is the most vivid of all vivid red bedding plants. When grown from seed they should be started inside early. Be sure in ordering to select a variety adapted to the purpose for which you plan to use it, as they vary a great deal in height and habit of growth.

Schizanthus (8–12). The beautiful "butterfly flower," on account of its finely cut foliage, habit of growth and form of blooms, makes an ideal plant where a tall, informal border is desired. It may be sown where it is wanted and will flower in a few weeks.

Scabiosa (8–12). An old favorite especialy valuable for furnishing cut flowers during the heat of mid-summer.

SNAPDRAGON (Antirrhinum) (8–12). Another fine flower which has been greatly improved during the last few years, and is just beginning to win the popularity it deserves. In ordering seeds be careful to select a type suited to the place you have picked out for it. The dwarf, semi-dwarf, and tall strains vary from one to three feet or more in height.

STOCK (5–12). At least a packet of these old favorites, to furnish a few plants for cut flowers, should be included in every flower seed order. They are not only very pretty, but deliciously fragrant. The Ten Weeks sorts are especially good for bedding. The Cut-and-come-again strains bloom, if they are kept cut, from summer until frost.

SWEET ALYSSUM* (4–8). This has long been considered the very best low, white edging plant. A new variety, Violet Queen, gives us another color with the same dwarf spreading habit of growth.

Sunflower (12–36). The common sunflowers are useful and ornamental, where rapid growing plants for screening are needed. Both the single and double varieties of helianthus are especially good for cutting, and flower from seed sown outside. They have been greatly improved, and most people are not yet familiar with the best new developments. The new "red" sunflower is interesting and comes fairly true from seed.

SWEET PEAS* (4–8). Most purchasers order more, frequently two or three times as much, sweet pea seed as they require. They do much better if sown rather thinly, and then thinned out to at least four, and better six or eight inches apart, if the soil is rich, as it should be to produce good flowers. For really fine results get some of the new named Spencers, plant the seed in paper pots in February or March, getting two or three plants in a pot, and set out in well prepared trenches in April, planting deep, and mulching them as soon as the season becomes hot.

VERBENAS (12–18). These are among the brightest of all low growing garden flowers, and are especially good for keeping the flower beds cheery in autumn, after most of the other things have gone by.

Zinnias (8–12). These are one of the easiest of annuals to grow, even under unfavorable conditions, and are fine for brilliant masses of color. A new type, called "curled and crested" is much more artistic and attractive in form than the stiff round heads of the regular type. Red Riding-hood, a very bright dwarf sort, is unexcelled for a bright low narrow border or edging plant.

Five year old Dwarf Bismarck apple, eighteen inches high, grown on a porch

Growing Fruit Trees in Pots—By W. C. McCollom, New York

BECAUSE OF THE PERFECT CONTROL OF CONDITIONS, YOU CAN IN THIS WAY OBTAIN FRUITS OF EXQUISITE QUALITY FAR SURPASSING THE PRODUCTS OF THE ORCHARD

THERE are several very good, sound reasons back of fruit growing under glass. One is the superb quality of the fruit thus produced, surpassing by far that which is known in the best quality orchard product—bunches of luscious grapes, the individual berries of which are as large as fair sized plums; peaches and nectarines that are marvels in size and fine texture; plums of delicate bouquet and spicy juice. Whenever there is an adequate range of glass, or the building of one is contemplated, the thought of handling fruit trees inside naturally arises. Indeed, this is the one great general inducement to better greenhouse building on a small place.

The great drawback to fruit culture under glass has been the amount of space necessary when the trees were planted out,

Blue Rock plum, carrying over one hundred fruits

necessitating special houses that could be used only for this one purpose. But things have changed during the past few years, since the potted tree has become generally available.

No special house is required for the forcing of these pot trees; they produce fruit very quickly—in fact, in half the time of the trees or canes in an open border; and you can get a much wider range of varieties for forcing, because of the fact that cherries, apples, pears, etc., can be added to the list for pot forcing whereas the space they would occupy in a house, if planted in a border as a permanent fixture, would be prohibitive. Pot grown trees can be purchased of such a size that they will fruit the first season, and by skilled handling can be kept in bearing for a period of years. True, they outlive their usefulness more quickly than a border planted tree, yet it is considerably easier to replace pot trees and no time is lost in the change. The big point in producing results from these trees in pots is to handle them so that you get the healthy, fruit-producing wood without the rank growth which characterizes the regular tree outdoors, and which inside would completely annul the fact of potting them.

Guigne d' Annonay (cherry), twenty-six years old, which has always been grown in a pot

Stock should be ordered some time during the winter for spring delivery. Any up-to-date nurseryman can supply you with this stock; but be sure to insist that the stock be *pot grown*. Trees lifted from the open and potted will not do at all. The right tree is also one grafted on dwarf stock, as it is impossible, when dealing with large growing stock, to confine the plant to limited space without injuring the possibilities of fruit. So go to a reliable nurseryman at once and explain exactly what you want, since all their pot trees are imported and generally only to order.

When received, place the trees in a cool house until it is time to start them into growth, and keep them rather dry than wet. If the pots are plunged in the border or bench it will prevent them from drying out too fast.

Any house where a temperature of 45 degrees, at night, can be maintained will be suitable for starting trees into growth. But remember it is well to hold back the trees, retarding their growth as late in spring as possible. This also gives ample opportunity at clearing out the house and making room for these late comers, which are in reality a summer crop for the greenhouse, although the start must be made now.

Now, as to the routine. When starting

Apple trees only a few feet high, but fruits fifteen inches around!

into growth, spray the trees frequently to insure an even run of sap, which means in turn an even break of the buds. That also practically assures the setting of all the fruit at one time. If the trees have been started in other houses than the one where they are to fruit, they can remain until the foliage on the grapes or peaches (whichever might be the case) becomes so dense as to shade the pot subjects, which must then be moved to other quarters. The pot trees can then be scattered around in other houses. Tapping the trees when they are in flower will facilitate fruit setting, and the spraying should be discontinued while the trees are setting.

When the fruit has passed the stoning period, give a good top dressing of manure, which will not only feed at that time, but will also reduce the necessity of frequently repotting—something that should be avoided as much as possible. Do not repot except as a last resort. Feeding should be practised to such an extent as to eliminate the necessity of repotting.

When growth starts, skillful pinching will confine the efforts of the tree to the production of fruit and the making of good productive wood for subsequent seasons. This pinching should consist of persistent efforts so that no great reduction takes place at any one time, but rather a little at a time, and often. It is impossible to lay down any hard, fast rule for this.

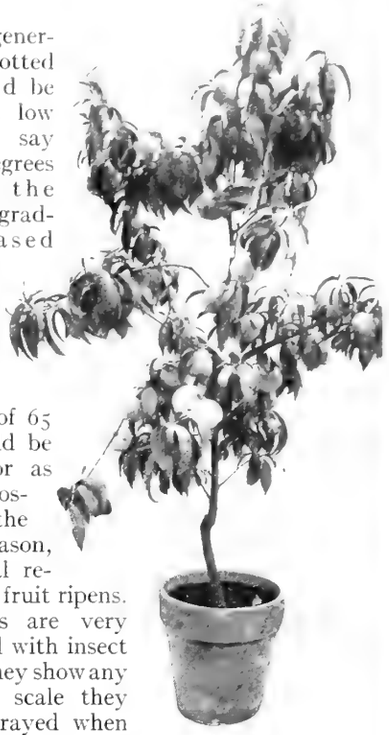
The fruit must be thinned. A tree seems to be capable of carrying just a certain quantity of fruit according to the conditions; by *reducing the number* of fruits, you get practically *the same amount figured by bulk*. Roughly speaking from 40 to 60 per cent. of the fruit should be removed according to the tree, the variety, and the freeness of the "set."

After the fruit starts to swell, the plants can be fed quite freely using a variety of food, consisting of liquid manure water, soot dissolved, some of the concentrated manures, and just a little of the stimulants, such as nitrate of soda and sulphate of ammonia. Frequent spraying must be carried on until the fruit has begun to show signs of ripening. A dryer atmosphere must then be established and the plants should not be watered so freely, and the houses should be ventilated more freely.

A thriving plant of Cornwall nectarine in a thirteen inch pot. What could be more convenient?

Speaking generally these potted trees should be started at a low temperature, say 40 to 45 degrees nights, and the temperature gradually increased until by setting time a temperature of 60 degrees at night is reached. A temperature of 65 degrees should be maintained, or as near that as possible, during the growing season, with a gradual reduction as the fruit ripens.

These trees are very little troubled with insect pests, but if they show any indication of scale they should be sprayed when dormant with any of the accepted preparations. A light application of liquid tobacco mixtures during summer will keep green fly in check.



Young peach tree in a fourteen inch pot. Note the relative size of the fruit

Hale's Early peach in a thirteen inch pot

During the dormant period, keep the trees cool and rather dry. Repot after the growing season by putting the plant back in the same tub or pot, merely taking off all the used soil, and replacing it with fertile compost. Only in exceptional conditions use a larger pot.

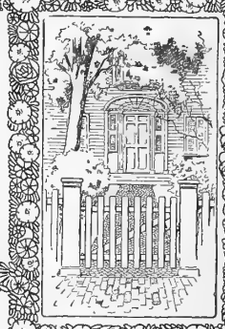
As to varieties! Well, there's plenty of choice, and on page 204 I enumerate those I have found reliable and of good quality.

The possibilities of potted fruit. Cherries and violets growing in a greenhouse only eleven feet wide

Roberta of Roseberry Gardens

By Frances Duncan

Decorations by Jack Manley Rosé



(*Continued from page 156, December number*)

MICHAEL,' he says, givin' me his check. 'There's some plants marked; ye can put down the cost. The check will cover it, an if there's some left, sind —well ye can sind somethin' pretty. Use yer taste,' he says."

"'Where shall I sind them to?' say I."

"'Oh yis,' says he, 'I forgot,' says he. 'Let me see' says he, 'my word,' says he —'where *shall* I sind them!'"

"Thin he thinks a bit and thin pulls out a card.

"'Sind them to Mr. Stackpole, Hinery F. Stackpole, av Chistnut Hill. He's been after buying a new place, he should larn to buy plants,' he says. 'To sind him some is the best way to teach him.'"

Because of this careful arrangement of the time-table, it would happen that when Mr. Herford entered the office he would be surprised to chance on the secretary only. His first inquiry would be for Mr. Worthington. Miss Davenant was very sorry; he had only just gone in.

"Ah, yes!" Mr. Herford would glance at the clock. "It takes a good bit of time to get here. Michael? Is Michael near at hand?"

Roberta thought a minute. "I believe he's at the end of the dogwood plantation; he said he was going there. I'll send Barney and have him here shortly."

"About how long would it take?" would be the next query.

Roberta was truthful. "Perhaps twenty minutes."

"I'm so sorry," he would say. "I haven't the time. It's a pity, too, to break in on his work."

"Would one of the other men do?" Roberta would ask. "Pete is quite near, or Reilly?"

He shook his head. "I'd rather have Michael. I can easily come again."

And then doubtfully.

"Would it be too much trouble, I wonder, if you could——"

"It would be no trouble," Miss Davenant answered in her most businesslike mannner, "but I don't know the prices of those specimen plants."

Mr. Maurice Herford's face lightened. "That would be no difficulty—you know the location. If you would only mark for me the ones I want, Michael can affix the proper prices later. If it would not be too much trouble," he would repeat apologetically.

So Mr. Herford would have his desire and Roberta, her pockets stuffed with labels, would go with him out into the late afternoon sunshine, along the broad grass path and by the brilliant azaleas, stopping here and there to mark a plant.

He was rather silent, was Mr. Herford, and shy and middle-aged and growing early gray. Roberta's whole impression of him was of silvery-gray. He used to wear grayish clothes. He had a clear, delicate profile and very, very unexpectedly dark brown eyes that could flash with sudden pleasure.

Mr. Herford chose his plants for curious reasons. He selected some beautiful azaleas, Indicas, that were over by the hedge, standing, himself, on the grass path some yards distant, since from that place he could see which plants he wanted. Also he wished to see Roberta bending over the dazzling whiteness of the azaleas, her coppery hair in the late afternoon sun shining like an aureole of red-gold against the dark background of the hedge. It took him quite a while to find the right azaleas.

After about twenty minutes of selecting plants, he would go back contentedly to the office where Michael would probably be waiting, a smile of bland contentment on his face.

"Would you let me drive you in?" asked Maurice Herford of Roberta, with a shy hopefulness in his voice.

"I'm sorry," she said, "it's very kind of you, but I have work to do that will take until six to finish. It's impossible."

Mr. Herford entered his carriage, carefully attended by Michael, and drove off a bit regretful, but on the whole well content.

Michael returned to the office, sat down and adjusted his red neckerchief with complacent pride.

"Michael," said the girl, "did you know Mr. Herford was coming out this afternoon?"

"He said somethin' of it the other day," returned Michael airily, "but 'twas nothin' to be depended on."

"And you knew he was coming when you went to the far end of the dogwood lot! And I rang and rang for Barney!"

"I had the lad with me wor-rkin'. 'Tis a shame he knows so little about plants!"

"Michael!" she said reproachfully.

"Well!" he demanded, "do ye think I'll let a tow-headed lad have the run of the place all morning and give no chance to my little man, who's no brass because 'tis pure gold, he is? Indeed not!"

"When ye first came out to Roseberry Gardens, Miss Davenant, Mr. Worthington says to me, says he, 'Take good care of her, Michael,' he says, 'she's but wan gur-rl in a lot of men.' And ye may like it or not, but Oi'm doin' it," concluded Michael firmly, "to the extint of that sinse the Holy Mother has given me!"

CHAPTER VIII

FOR all the machinations of Michael O'Connor, which alternately amused and annoyed Roberta, she went her way serenely. The Gardens fascinated her.

Always she would be out early, and after the trucks had gone down the flowery drive carrying with them their load of cases and of Tompkins' grievances, she would arrange the day's work with Michael and then be off and away to find Rudolph Trommel. The early morning hours were clear gain. She was not officially due at the Gardens until nine.

Early as Roberta was, Rudolph Trommel was earlier. She would be out at the Gardens at seven, but the old Swiss would already have been up for three hours. Invariably he gave a couple of hours to his beloved philosophers—Emanuel Kant, Schopenhaur, Fichte, or Comte and among English and Dar-

win and Herbert Spencer. In intervals of discourse on plants he would expound their theories to the young secretary; and, believing Kant too much for Roberta's mind, he started her on Herbert Spencer and lent her the "Synthetic Philosophy". In which, to her shame be it said, she did not make great progress and stopped fatigued at the end of the "Unknowable." "In order properly to understand plants," he would explain "one must haf a knowledge of philosophy. Otherwise," he would argue, "one beliefs exactly what one is told. That iss to be an animal to whom habit iss all important. Credulity iss a winding sheet for experiment. I myself haf done much from habit. I wass a member of the church, I wass confirmid, und so fort. *Und* when I came to America, I joined myself to the church here. It wass a matter of course.

"*But*, one Sunday the minister preached und he said Darwin wass pernicious, und he said the worlt wass made in sefen days, und such foolishness. Darwin iss not pernicious; he iss a fine intelligence. I know it.

"Next day I visit that minister of the church und I ask 'Why, on Sunday did you say such and such things?'

"'I beliefed them,' he says 'it iss the doctrine of the church.'

"'Iss it the doctrine off your church?'

"'It iss,' he said.

"'Und when I choined myself to your church I subscribed to that doctrine?'

"'You did,' he says.

"'I subscribe to it no more!' I tell him.

"'I will not hear men of fine intelligence called pernicious when I can not stand up und say it iss a lie. I subscribe no more.'"

Roberta laughed. "You might have been burnt as a heretic years ago, Uncle Rudolph."

"Perhaps," he agreed, "but one cannot lie."

These exquisite May mornings he was intensely busy looking at new varieties in bloom for the first time and making careful notes of variances; seeing if other sorts were true to name; noting those which should be propagated; marking plants which were especially good, from which grafts should be taken later and from which Michael O'Connor was warned off by large signs "*Do Not Sell.*"

"He always puts that mark on the foinest plants," grumbled Michael. "'Tis har-rd whin, afther much trouble, you get a man worked up to the buying point, wid a foine plant in his eye and thin to come around on the other side and read the legend *Do Not Sell*. 'Tis enough to make a man stop selling plants altogether. And thin what w'u'd Rosebe'ry Gardens do?"

Rudolph Trommel thought one extremely stupid who could not recognize a plant except in its blooming season.

"What rhododendron iss that?" he would question his pupil.

"If it were only in bloom——"

"Look at the leafes. Can you not see the indifiduality? That iss Mrs. Milner. Her leaf is much flatter than the others. Und that? It iss easy to tell from the habit. That iss Charles Dickins; he iss straggling, but a beautiful color!"

Roberta herself was industriously keeping a journal, not of events, but of the appearance in bloom of one flower and another, and as each one appeared she put it down.

Rudolph Trommel showed her how to cut branches, exactly where the pruning should be done later "Und then the plant suffers no harm." She would always have a budding knife or a pair of pruning shears in her pocket, and usually brought back with her dogwood branches or a spray of azaleas.

Once this early breathing space past, when the joy and delight of the May morning could be enjoyed to the full, life at Roseberry Gardens was intensely busy.

"That iss the way of gardens," old Rudolph would say placidly, for having nothing to do with the shipping, the rush of the spring business left him unmoved. "Children are so also, although people try to make them ofer into lockstep. It is nature and it iss growth. It may be it iss also business. Frantic haste and then quiescence und peace. That iss plants und that is nurseries."

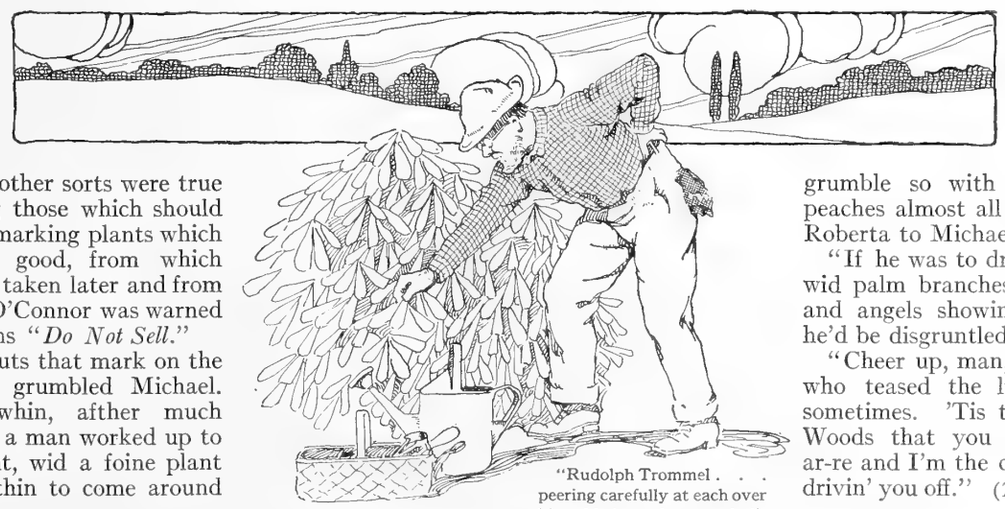
But it was only in the early morning that Roberta had time to listen to his theories or instructions. For the rest, never were barn swallows busier than were she and Michael O'Connor. The spring was coming with a rush and all deciduous trees must be shipped before they leafed out; then it was dangerous. Evergreens could wait a bit, also azaleas and magnolias; but the flowering trees and shrubs must go immediately.

It mattered little if they were in bloom, for the naked flowering shrubs had had their blossoms ready all winter to push out at the first warming of the branches; but the foliage meant root activity.

So, into the long packing-shed came the heaps and heaps of flowering shrubs, buds faintly showing, just ready to blossom, and tirelessly and with unfailing cheerfulness was Michael O'Connor everywhere superintending the work, pushing along the elderly workmen who fairly trotted about their work without realizing it, for an old gardener can work with real rapidity and is deft and skillful in handling plants, while brawn and ignorance may break the roots.

The packing sheds were more fragrant and flowery than ever. Roberta liked the necessary running in and out with tags and shipping directions, and to see the careful wrapping of the roots and tying up the lovely living things into the long, mummy-like bundles that seemed to thrust legs and heads helplessly from the big truck-loads every morning. There must be holes cut in the sides of the cases so that the evergreens might breathe. Each rhododendron had its ball of roots wrapped in burlap and tied with twine; they were packed to fit exactly and held in the box by cleats so that the tops were free. Conklin could glance at a heap of plants and make a box to fit it exactly.

Occasionally to a near-by estate a load went unpacked, the trees standing upright, closely fitted into the wagon floor, while in an embowered seat sat the grim and sour Tompkins or the grinning Washington, looking as if they were bringing Burnam Woods to Dunsinane.

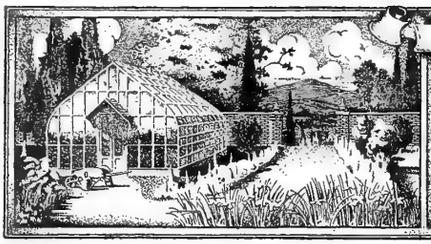


"Rudolph Trommel . . . peering carefully at each over his gold-rimmed spectacles"

"How can Tompkins grumble so with those flowering peaches almost all over him!" said Roberta to Michael.

"If he was to drive it into Hivin wid palm branches wavin' around and angels showin' him the way, he'd be disgruntled!" he replied.

"Cheer up, man," called Michael who teased the luckless teamster sometimes. 'Tis the Babes in the Woods that you an' Washington ar-re and I'm the crule uncle that's drivin' you off." (*To be continued*)



ODDS AND ENDS
FROM EVERYWHERE

The Shot Hole Borer

I DO not agree with the information given on page 144 of the November issue about scale on peach trees. Judging from E. H. M.'s inquiry the tree has a bad attack of San José scale, which has weakened it to such an extent that the shot hole borer has attacked it. The shot hole borer, as a rule, does not attack healthy trees. It confines its depredations to such as have been weakened from one cause or another. I have seen many trees which, judging from the description, were in the same condition as E. H. M.'s tree, and I believe that, if he allows a large crop of fruit to mature on the tree, he will have no tree next year.

The only remedy for the shot hole borer is to cut out such limbs or such trees as are badly infested, and to give the tree a heavy application of nitrogenous manure to stimulate it in the hope that it will grow so fast as to smother the shot hole borer by covering its hole, or the entrance to its channels.

Penna. H. C.

Another Method of Indexing

I READ, in the December issue of THE GARDEN MAGAZINE, Mrs. Springer's description of her home-made planting cards. I, too, have my own individual system of indexing the articles that appear from time to time in the magazine. I get a blank book about 3½ x 6 in. in size, and index it alphabetically, allowing three pages for such letters as C, F, G, P, and S, as I have found that more articles will come under these letters than the others. The other letters have one page allowed for each. As soon as I receive each month's number, I copy into the book all the titles of subjects that will be of interest to me in my gardening, and opposite the number of the month and year. For instance, under D, I find "Daffodils, planting time, 9–10" (which means September, 1910); "Dahlias, hobby in, 9–10;" "Dusty Miller as bedding plant, 10–10." And should I wish to know what THE GARDEN MAGAZINE has to say about celery or chrysanthemums, I look at the items that have been entered under C, and instantly know in just what volume to find what I want.

Madison, Conn. L. A. FOX.

For Killing the Rose Chafer

ON PAGE 312 of the June issue of THE GARDEN MAGAZINE, directions are given by Mr. Harold Clarke for spraying to kill the rose chafer, in which it is advised to add molasses or glucose to the arsenate of lead and water mixture. If the supposed object of the molasses or glucose is to improve the sticking qualities of the spray, the supposition is erroneous, for the result is decidedly the reverse. If the object is to furnish a bait to the chafer, to make the mixture more readily eaten, doubtless the advice is well-founded.

Various materials are advocated for addition to spray mixtures to improve their sticking qualities, but there is nothing which sticks more persistently than a spray made of water and pure paste arsenate of lead, and there is no other material than paste arsenate of lead that can add more to the already good adhesive powers of bordeaux mixture or of the lime-sulphur spray.

Missouri. BENJAMIN C. AUTEN.

It is evident that Mr. Auten has not had to fight rose chafers, because five pounds of arsenate of lead, twelve and a half pounds of glucose in fifty gallons of water is rather an expensive spray material, but it does the business. The arsenate of lead will stick to almost all kinds of foliage except the very smooth ones, like cabbage, without the addition of any material. For smooth foliage the resin oil soap is, without doubt, the best material to add as a sticker.

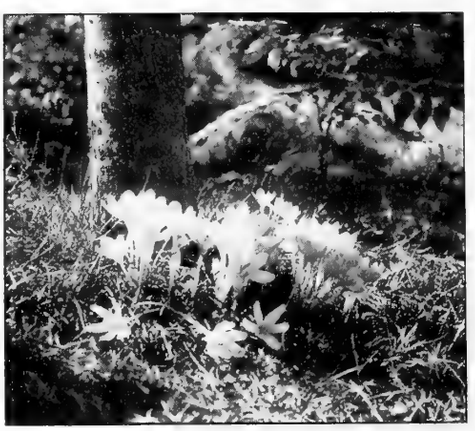
The sweetening is added simply to make the arsenate of lead more appetizing, and I know personally three orchardists who used that last year, on my recommendation, and who got very satisfactory results. The rose chafer will not eat the arsenate of lead in sufficient quantities to kill him or drive him away without the sweetening; and he is not the only bug that has a sweet tooth, either.

Penna. HAROLD CEARKL.

A Permanent Bulb Planting

A VERY excellent permanent bulb planting under pale yellow, golden yellow and cream Azalea mollis, is Crocus sativus, to flower in November, in shades of lavender blue; Camassia esculenta, early May, clear gentian blue, twelve inches, with slender, inconspicuous, linear leaves; English wood hyacinth, Scilla nutans, light blue and nine inches high (or nutans major, which is darker).

The leaves of the camassias, wood hyacinths, and the spring leaves of the autumn-flowering crocus, are green upon the ground under the azaleas, but scarcely distinguishable from bordering grass in which azaleas are best shown. The camassia, a fine true blue, is in its prime with the creamy and golden azalea clusters above it. The wood hyacinth slips into flower almost unnoticed in a lighter tone of blue perfectly in keeping with the camassia, and prolongs the blue into June. All of these bulbs are well content with a half day's sunshine. As the



A clump of Colchicum autumnale, often called the "autumn blooming crocus"

shade of the azaleas grows denser the camassia will eventually dwindle; but at the prices at which the bulbs are quoted such a result may be regarded as a trivial disaster after three years' bloom. In loamy soil, the saffron crocus and the wood hyacinth strengthen with time. Fresh manure, or any mulch too attractive to cutworms in autumn, should, of course, be withheld from an azalea bed so planted.

Pittston, Pennsylvania. E. S. JOHNSON.

Root Pruning

THE object of root pruning is to check over luxuriance and to facilitate removal to a fresh site. In the best nurseries the frequent transplanting leads to the production of fibrous roots and makes the removal of the plants safe and without risk. If, for instance, we have a large specimen tree or shrub which has not been moved for several years, its removal now without any preparation will probably be attended with much risk; but if a trench is opened round it and the large roots shortened, the trench filled up and the soil rammed in again and left for another year, a new set of roots will have been created, and the specimen may be moved to a fresh site without risk. This only refers to ornamental trees and shrubs. But in the orchard and fruit garden, root pruning has a different object. It is done for the purpose to bring over-luxuriant trees into bearing; and in some cases only one half round the trees may be done and the other half left to the following season. Open a trench three feet from the stem and work under the base so as to cut the tap roots if possible.

Root pruning can be avoided in some cases if the knife is not used so much upon the branches of the trees. Of course, if we plant young or badly pruned fruit trees it is necessary to prune to a certain extent, till the proper form has been created. Afterward less pruning will be needed. The more the branches are cut and hacked about, the stronger the growth and the greater the impetus given to the roots, which push deeper into the damp ground and disorganizes the habits of the tree.

Calgary, Canada. W. R. GILBERT.

Autumn "Crocuses"

OH, LOOK at the crocus blossoms at this time of the year" is the remark often made by the uninitiated as they pass through my garden in early autumn, and see clumps of Colchicum autumnale that have come into sudden bloom at the roots of trees and shrubs and in out-of-the-way places. A native of Asia Minor, it seems to have adapted itself to our climate, as well as to the wild places of Colchis, from which its name is derived.

Though apparently resembling the crocus, one difference is that the crocus has three stamens, and the colchicum six, the latter also producing many flowers from the same bulb. The growth of leaves and the perfecting of seed take place in spring, then the flowers come up in autumn without leaves, and last a long while if planted in a cool, moist place. The bulbs must not be injured or disturbed or they will fail to perfect their flowers. Planted during the summer they will give bloom the first season, and may be left undisturbed for years.

Quebec, Canada. ANNIE L. JACK.

Apples in Sandy Soil

ON PAGE 132 of the November, 1914, number of THE GARDEN MAGAZINE, George T. Powell has a story on "Sandy Soil Possibilities" in which he suggests that winter apple varieties "grown on sandy soil have poor keeping quality and are deficient in flavor." I know one farm in Massachusetts which had a small orchard on it, and the soil in which these trees were growing was sandy with a gravel subsoil. The varieties which I distinctly remember growing in this orchard were Red Astrachan, Porter, Baldwin, and Roxbury Russet. The two winter varieties kept very well indeed, until late in the spring. And it is my recollection that the quality was good, very good.

Penna. P. T. B.

The New Steubenrauch Peaches

FROM Texas have come several new varieties of the peach, some of which have already proved to be suited to other sections of the country, and all of which, on the authority of Prof. C. P. Close of the U. S. Department of Agriculture, are worth trying. They are the product of Mr. J. W. Steubenrauch of Mexia, under whose supervision the Carman was accidentally produced some twenty years ago. His purpose was to cross pollinate some of our best varieties and multiply their number, and so to secure a line of choice varieties ripening throughout the season.

Mr. Steubenrauch chose as the parents of his new varieties the Elberta and the Mamie Ross, the latter a pure seedling of the old Chinese cling. This gives the new stock about 75 per cent. of North China blood. But both these varieties mature rather early, and to secure the later ones, Mr. Steubenrauch chose Bell's October for further crossing.

All of the new varieties produce yellow fruit with a considerable blush. They include the Eva, Tena, Joe (a third larger than Elberta), Toughina, Millard,

Anita, Frank, Lizzie, Kirk, Barbara, and Katie. These varieties bear in succession for about two months. All but two of them, the Eva and the Millard, appear to be hardier than Elberta.

Professor Close's favorite in this list is the Lizzie. It is a free-stone peach, very handsome and waxy in appearance, a light lemon yellow with a light red blush. The skin is tough and almost entirely free from fuzz. The flesh is firm, fine-grained, and of excellent quality. It is a first-class shipper. It is a trifle shorter than Elberta and of nearly the same size, though it has a decidedly smaller pit. It blooms later than Elberta and is much hardier in bud.

An interesting characteristic of these varieties is their freedom from fuzz. "I have always observed," writes Mr. Steubenrauch, whose experience extends over forty years, "that those varieties having a heavy fuzz, with either a crease on the side or a deep stem cavity, will always rot the worst, the rot spores finding ready lodgment in the fuzz of an uneven surface. Among my new varieties there are a number of which I have never seen a single rotten specimen, including Toughina, Lizzie, Barbara and Katie."

Another of Mr. Steubenrauch's peaches, not included in this list, but which is highly recommended by Prof. U. P. Hedrick, is Miss Lola, which was first grown at Mexia from a pit planted in 1876. It is a popular variety in parts of the South but is hardly known in the North. As grown on the trial grounds of the New York Experiment Station at Geneva it is, according to Professor Hedrick, the best of its season and one of the best of all peaches. It fills a gap in the peach procession that ought to make it valuable in the North. It follows Mamie Ross and Greensboro, both of which it surpasses in appearance and quality. It precedes Champion, and unlike Champion is almost a free-stone. It ripens with Carman, but is hardier in bud, of better quality, a little larger, and generally more productive.

Miss Lola is roundish-oval, creamy-white, specked and blushed with carmine and darker splashes. The skin is tough, the flesh white, fine, sweet, and melting.

Long Island. WALTER A. DYER.

Is It Better than a Hoe?

WHEN I use a hoe the trail is one of disaster. Generally it is the most cherished plant that receives a misdirected blow and I lose a choice blossom or a branch of promise. If I work among the shrubbery my skirts do woeful damage. My cultivating trials have been greatly relieved by a broad sharp chisel mounted on a handle about the length of a rake. With this simple home-made affair I can stand at the edge of a bed and stir the soil around each plant with one or two gentle pokes. It is surprising how rapidly one can work with this tool, far more so than with a hoe, and a great difference in fatigue. I have also found the chisel a great help in removing weeds from the garden paths and the lawn.

Berkeley, Calif. MRS. B. R. PUTNAM.

[Why not buy a Dutch or scuffle hoe, which will work the surface more lightly than the chisel, and cover more space at a stroke?—Ed.]

Increasing the Yield of Potatoes

MY AIM in gardening is to get the largest possible yield of crops without decreasing the fertility of the soil. This can be done by the scientific use of fertilizers. That is to say, the land must receive as much plant food and humus as are removed by growing crops.

The recognized necessary fertilizing elements in the order of their importance are nitrogen, phosphoric acid, and potash. But when these substances are applied to the soil they are not always in a condition to be easily assimilated by plants. Certain soil bacteria by their activity transform insoluble plant foods into soluble forms which are then dissolved by soil moisture and are made ready for absorption by the rootlets of plants. The more food a plant absorbs the more rapidly it will grow and produce a larger yield. Hence, there should be applied to the soil, in addition to fertilizers, those substances which render bacteria more active.

Several experimenters have discovered that, in the presence of sulphur in the soil, the nitrifying and ammonifying bacteria become very active and prepare large quantities of nitrogenous food that can easily be assimilated by plants. To get the best results with sulphur, however, it is important that the soil should be well supplied with organic nitrogenous fertilizers. Barnyard or poultry manure, or such leguminous plants as clover or cowpeas, may be used for this purpose. Under favorable conditions, their use with sulphur may be expected to give an increased yield of crops.

In 1914 I tested the value of sulphur on potatoes. The methods and results were briefly as follows: Well-sprouted seed potatoes of the Irish Cobbler variety were used. The seed had been carefully selected for growing an early crop, the bulk of them being small whole potatoes with a single vigorous sprout. Seed potatoes with weak sprouts were discarded.

Each seed potato was first dipped in water and then carefully rolled in a deep pan of ground sulphur, care being taken that both seed and sprout were well covered with the sulphur. The process required a little more time than the ordinary handling of sprouted potatoes as seed, but few were injured by this method of treatment. The seed were then planted in rows three feet apart and about fifteen inches apart in the rows. The potatoes were grown on plots about 60 by 18 feet, or approximately one-fortieth of an acre each. There were six rows with 48 seed potatoes in each row. The yield from the sulphured potatoes was a little less than 9 bushels as compared with about 6¾ bushels on the plot where the seed were not sulphured, or an increased yield of about one-third.

The ground sulphur used cost five cents per pound and about 5 pounds were utilized in the test. It also took about an hour's extra time to prepare the seed for planting in the manner described.

As an aid to the sulphur, it should be mentioned that the land had been well supplied with organic fertilizers. In 1913 there had been grown on these plots sweet corn with cowpeas between the rows. Both the corn stover and the cowpeas had been plowed under in addition to a sufficient supply of poultry manure. The land, therefore, was well supplied with the organic substances required by soil bacteria for the formation of assimilable plant food.

The season, however, was not a good one for potatoes in that part of Maryland where this test with sulphur was made. Potatoes are a cool weather crop and can stand plenty of moisture rather than dry weather. But the growing season had long hot and dry spells with long intervals between showers. Fortunately, by early planting, the plants received the benefit of the more favorable weather in April and May, thus giving them a good start. Notwithstanding these drawbacks, the two plots gave a yield which would be equivalent to about 300 bushels per acre; while the gain from the use of sulphur was approximately at the rate of 100 bushels per acre. The gain on a small garden plot was very profitable for the cost of the sulphur and for the extra hour or so spent in preparing the seed potatoes.

Kensington, Md. JAMES B. MORMAN.

Raspberries and Peaches

WITH all the preaching about intensive farming and double cropping, the great question seems to be what crops to combine for the greatest return, with the least harm done to the permanent crop. And lately I have seen, in a number of publications, articles advocating raspberries as an orchard filler, and especially among peaches.

This same advice was given to me three years ago by some of the best authorities; but I am glad to say that my first peach orchard had strawberries as a filler. The second year, when I planted another peach orchard of some hundred trees, I placed some of them among Cuthbert raspberries, which had been planted the year before. Planning to be on the sure side we dug away the raspberries some three feet from where each tree was to be planted. The land has had thorough cultivation all the time.

The trees were all from the same stock, planted within fifty feet of each other, at the same time in the same light loam soil.

The first tree was planted in the spring of 1911 and the raspberries were removed the fall of 1912. While it has made a little growth I am in doubt if it is worth while trying to save, and I think I may get better and quicker results by planting a new tree.

The next tree was planted at the same time among raspberries, but they were dug out that same fall and the following season it has had small ornamental nursery stock around it. It seems to have entirely recovered from the set back and is a healthy looking tree.

The third tree was planted near the first, but outside of the raspberries. It has had only small vegetables and melons about it.

They speak for themselves, these three pictures, and it is settled in my mind that no orchard that I have anything to do with shall have raspberries planted in it. I have also had Columbian raspberries among some apple trees for two years, and while the apples seem to have stood it better than the peaches, I feel sure that they would be further advanced if they had not had the raspberries among them.

Strawberries, melons, squashes, and cucumbers seem to do no harm to the trees, and certainly will yield as large a return as the raspberries while the permanent orchard is not stunted, but gives you returns in a few years.

Newark, N. J. ROSE WILLIAMS.

Hollyhock Disease

WE HAD excellent success, last season, in overcoming this disease by spraying with a weak solution of arsenate of lead. Our plants were badly affected and were entirely cured in a few weeks, so that we had a fine display of flowers for the rest of the season.

Andover, Mass. F. D. SOMERS.

Showing the disadvantage of using raspberries as an orchard filler. Three trees planted at the same time: the first one amongst raspberries, the second one with nursery stock, and the third, small vegetables and melons

GARDENING FOR YOUNG FOLKS

CONDUCTED BY ELLEN EDDY SHAW

Organizations of Children's Gardens

JANUARY is not a bit too early in the year to plan what sort of work is to be organized for the children. The vacation time looms up, a time when many children have too much leisure on their hands. School people are considering the best way to improve the school grounds. Problems of this nature resolve themselves into "how to go about it" and "what is the cost."

It is usually so much better to start in a small way and not to become saddled with more work than any one knows how to handle. Usually each problem is different and what one group of people may do, another cannot. In club work it is better either to start a community garden for children or to start backyard garden work. Perhaps this latter is a better thing to do since the home is more easily reached in this way. Any piece of work like this must have a follow-up system attached to it. Have printed a card similar to the following and one showing that the gardens are visited throughout the summer. This card explains itself:

ADDRESS .....

NAME .....

ATCHISON WOMAN'S CIVIC CLUB
Children's Home Garden Report

FIRST VISIT	SECOND VISIT	THIRD VISIT
Selection	Care	Care.....
Arrangement.....	Condition	Condition.....
Care.....	Date	Date .....
Yard - Gen. Appearance		
Date..... Special Features	.....Visitor	.....Visitor
..... Visitor	Mark answers by letter. E---Excellent G---Good F---Fair P---Poor	

Get in touch with the children through the schools. If some of the teachers in each school become interested in the initial work, your problem is solved. For the start-off counts tremendously. Perhaps this work may become a part of the nature work. The home garden work in Providence, Rhode Island, is a part of the school work as follows: "Each week a certain period is set aside for a discussion of their home gardens. The pupils are requested to make a plan of their gardens and then transfer it to the blackboard. The plan is then discussed before the class so that all may have the benefit of any suggestions made. The work to be done at each lesson and the reason for doing it is explained in the class room before the pupils go to the gardens. The students of higher classes are given a more thorough discussion of the principles of gardening at a regular weekly period."

If a supervisor or teacher of gardening can be employed then she coöperates with the schools and follows up the garden work throughout the summer. But even so, it is wise to have a committee of visitors from club members or citizens to help in this work of visiting the gardens. As many people as can be actively interested in the work, the better it is. Assign visitors to gardens not in their own districts. At the close of the season have a committee of judges visit the best gardens in each district. These gardens are chosen by the visitors from the reports on the cards.

The community garden is another phase of gardening work for children. First the plot must be found. A vacant lot, a piece of unused real estate, property belonging to the railways or city are sometimes available; or they may be available, depending upon the persistency of the individual making the request. Most of these lots are discouraging not entirely on account of the litter upon them but also because of the wretched soil condition. Such lots are results of dumpings with a thin layer of top soil thrown on. So the top rubbish must be cleared and the soil enriched to the full extent of available funds. Again quoting from the Providence work: "Early in the spring as soon as the land was in a suitable condition, the flower beds, borders, and the large garden were fertilized with street sweepings at the rate of twelve cords to the acre. This was spaded in and a dressing of a complete commercial fertilizer was raked into the surface soil. The land received an application of lime last year so that there was no danger of failure from an acid soil."

In inaugurating this vacant lot gardening for the first time, procure, if possible, a good teacher of gardening who stays from the beginning of the season until the end. She should receive from twenty to thirty dollars a week if her entire time is to be used. If she is employed by the day she ought to have from two to five dollars a day according to her experience and ability.

After the lot and coöperation with the school and the teacher are secured, the next steps to be taken relate to the land, clearing it and fencing it in. Unless the community is unusual fencing is necessary. A chicken-wire fence or a boy-proof fence may be used. Water should be installed in the garden and a place provided for the tools.

If all this work is under the charge of a club-committee, appoint subcommittees to attend to preparations of lot; supplies, such as tools and seed; registration of pupils; prizes, and finally a visiting committee. Even if the garden has a good teacher, this visiting committee is a necessity, for again there should be a follow-up.

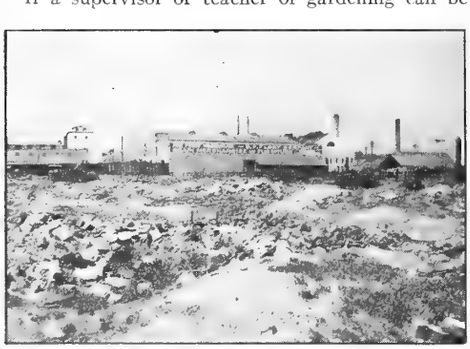
Registration should take place before the garden is open for children's work. Communicate with neighboring public schools, telling that on such a day gardens will be assigned to applicants. Children from fourth to seventh school year are perhaps the best material for work. Oftentimes the registration may be carried on at the public school itself. Register more children than you have plots—in this way you have a waiting list; few children will give up their plots from flagging interest if other boys and girls are ready to pop in and take them. Cards should be ready for the children. On these cards have placed the child's name, grade, and home address. Then give each child a number which represents a plot number. This same number place on his registration card and you have the record. Buy a large journal and keep about two pages for each child. On these pages his attendance record is kept and also an account of crops taken from plot, price of seed and amount of seed he uses. At the end of the season totals can be made up quickly from the sheets.

Prizes are not necessary of course. But it is often well to give simple prizes. It is helpful to a lad to look forward to a prize when weeding, just weeding day after day. These prizes should be simple. Medals, of silver and bronze, costing from fifty cents to one dollar are satisfactory prizes. Books, tools, magazines, all pertaining to garden interests, make fine prizes.

In the following account by Miss Merle Smith of Los Angeles, Cal., are points of helpfulness for those starting work. If your own problem has not been touched write directly to us for help.

"A combination flower and vegetable garden, at the Seventh Street School, was one of the finest in the city. This garden was three years old, having been developed by the children on a vacant lot, adjoining the school property. It was really very pretty and furnished an abundance of fresh vegetables, which the children took home. The paths were bordered with dwarf nasturtiums. I have never seen anything bloom as profusely as did those little plants! The children loved to pick them but the nasturtiums always came out ahead, so the borders were always like bands of gaudy ribbon. Along the fence, on one side of the garden a row of hollyhocks has been gay all summer, while on the opposite side of the garden cosmos and Marguerites effectively hid an ugly fence. The flowers on the third side were the greatest joy of all! Here we had dahlias which the children raised from seeds and they have been blossoming since June. This garden was developed on the "community plan"; each class from the kindergarten to the sixth grade, having a section of its own. The garden was so successful during its first two years and proved itself of such inestimable value to the little Mexicans, Negroes, and Italians who attend this school, that the principal looked about for more worlds to conquer. He found his opportunity on a large vacant lot, across the street from the school, which the owner loaned him for a garden. This lot had been used as a dump for years, so looked almost hopeless from the view-point of a gardener. However, the enthusiasm and energy of the boys was limitless, so there was nothing impossible. A strip 50 feet wide and 700 feet long was cleared and this was divided into plots 20 x 20 ft. square. Each plot was assigned to two boys and was planted with a good variety of small vegetables.

"This was the largest school garden in the city and excited much comment from those interested in children's work. One cannot exaggerate the enthusiasm of the boys, for they were wild over their gardens. I was kept busy during recesses, noons, and long after school hours, by the small gardeners who could not get enough of the work to satisfy them, during the regular periods assigned for garden work. Mrs. Larkey, the principal laughingly said, 'Miss Smith does not have to urge the boys to work; they work her.' The Seventh Street School is an elementary school in the heart of the industrial district. The soil is very loose and sandy, so it requires constant irrigation and cultivation."



A typical vacant lot loaned for school garden work. Site of the Seventh Street School Garden, Los Angeles, Cal.

The same lot two months later. Note the neat wire fence about the garden; also the tool house

Fruit Trees For Growing in Pots

THESE varieties have been found reliable for pot culture under the conditions described on page 197, and are also of good quality:

Peaches: Early Rivers, Alexander, Dr. Hogg, Peregrine, Duke of York, Duchess of Cornwall. In American varieties, the Early and Late Crawfords.

Nectarines: Early Rivers, Advance, Elruge, Stanwich Elruge, Lord Napier, Victoria.

Plums: The Czar, Green Gage, Early Transparent Gage, Reine Claude de Bavay, Belgian Purple, Grand Duke, Victoria.

Pears: Bartlett, Precoce de Trevoux, Souvenir du Congress, Madame Treyve, Louis Bonne de Jersey, Beurre Hardy, Conseiller de la Cour, Nouveau Poiteau, Beurré Diel, Directeur Alphand, Doyenne di Hiver.

Cherries: Early Rivers, Napoleon Bigarreau, Reine Hortense, Emperor Francis, May Duke.

Figs: Brown Turkey, Black Marseilles, Early Violet, Negro Larg.

Apples (cooking): Thomas Rivers, Yorkshire Beauty, Peasgoods Nonesuch, Reinette du Canada. (Early eating): Red Astrachan, Beauty of Bath, Duchess of Oldenburgh. (Midseason eating): King of the Pippins, Alexander, Cox's Pomona, Gravenstein. (Late eating): Beauty of Kent, Bismarck, Cox's Orange, Ribston Pippin, Belle of Boskoop; Colville Blanche and Manning's Pearmain.

What Apples Shall I Grow?

IN CHOOSING the varieties he is to grow, the prospective orchardist (especially if he be a novice) should certainly "play safe." That is to say, he should plan to grow varieties which the experience of others has proved to be adapted to his locality. Later on, perhaps, he can afford to try "something different."

For the man who heeds the above advice and plans to start conservatively, the Division of Crop Records of the Department of Agriculture has made a most interesting investigation and obtained some exceedingly helpful data as to the importance of apple varieties in different states in respect to production. From the results of this investigation it appears that the five most grown varieties in the leading apple states are as follows (the figures indicate in round numbers the *estimated percentages of a normal crop of all apples* grown in each particular locality):

Arkansas: Ben Davis, 44; Winesap, 8; Gano, 6; Limbertwig, 5.8; Jonathan, 3.7.

California: Yellow Newtown, 28.7; Yellow Bellflower, 18.6; Gravenstein, 8.9; White Pearmain, 7.5; Ben Davis, 3.9

Colorado: Ben Davis, 26.3; Jonathan, 18.3; Gano, 7.8; Rome Beauty, 4.8; Winesap, 4.1.

Connecticut: Baldwin, 42.4; R. I. Greening, 16.9; Golden Russet, 5.2.

Georgia: Horse, 14.3; Ben Davis, 12.2; Red June, 10; Limbertwig, 8.8; Winesap, 7.6.

Indiana: Ben Davis, 22.8; Baldwin, 7.2; Winesap, 6.7; Grimes Golden, 6.7; Maiden Blush, 5.8.

Idaho: Jonathan, 21.3; Rome Beauty, 16.6; Ben Davis, 13.1; Gano, 7.8; Winesap, 4.6.

Illinois: Ben Davis, 37.8; Jonathan, 9.3; Grimes Golden, 4.9; Gano, 3.8; Rome Beauty, 3.8.

Iowa: Ben Davis, 15.2; Jonathan, 10.3; Wealthy, 12.4; Oldenburg, 8.9; Grimes Golden, 4.9.

Kansas: Ben Davis, 19.4; Winesap, 15.3; Jonathan, 13.8; Missouri Pippin, 8.6; Gano, 6.0.

Kentucky: Ben Davis, 16.8; Winesap, 14.0; Rome Beauty, 9.6; Early Harvest, 6.4; Maiden Blush, 4.5.

Maine: Baldwin, 34.5; Ben Davis, 9.8; Northern Spy, 7.1; Wealthy, 5.4; R. I. Greening, 4.1.

Maryland: Ben Davis, 17.0; York Imperial, 16.2; R. I. Greening, 8.8; Winesap, 7.6; Stayman Winesap, 7.0.

Massachusetts: Baldwin, 48.4; R. I. Greening, 9.3; Gravenstein, 5.7; McIntosh Red, 5.7; Northern Spy, 5.1.

Michigan: Northern Spy, 17.9; Baldwin, 17.0; Ben Davis, 8.5; R. I. Greening, 5.4; Oldenburg, 5.0.

Missouri: Ben Davis, 34.2; Jonathan, 10.4; Winesap, 6.8; Gano, 6.5; Grimes Golden, 3.6.

Nebraska: Ben Davis, 21.3; Winesap, 13.6; Jonathan, 9.4; Wealthy, 6.2; Oldenburg, 5.8.

New Hampshire: Baldwin, 51.9; R. I. Greening, 5.9; Northern Spy, 5.2; McIntosh Red, 4.4.

New Jersey: Baldwin, 25.2; Ben Davis, 14.5; Rome Beauty, 5.0; Early Harvest, 4.7; R. I. Greening, 4.3.

New York: Baldwin, 31.3; R. I. Greening, 14.8; Northern Spy, 13.1; Ben Davis, 5.0; King, 4.1.

Ohio: Baldwin, 15.6; Ben Davis, 13.9; Rome Beauty, 10.8; Northern Spy, 7.7; Grimes Golden, 5.0.

Oklahoma: Ben Davis, 25.8; Missouri Pippin, 12.1; Jonathan, 8.2; Winesap, 8.1; Arkansas Black, 5.6.

Oregon: Baldwin, 12.6; Yellow Newtown, 11.3; Northern Spy, 7.4; Gravenstein, 7.3; Rome Beauty, 5.6.

Pennsylvania: Baldwin, 17.8; Northern Spy, 11.4; Stayman Winesap, 7.5; Ben Davis, 6.0; R. I. Greening, 5.5.

If you wish information about dogs apply to the Readers' Service

Tennessee: Winesap, 14.1; Ben Davis, 12.2; Limbertwig, 12.1; Early Harvest, 8.4; Horse, 6.3.
Vermont: Baldwin, 15.1; R. I. Greening, 12.8; Early Harvest, 12.0; Fameuse, 8.1; McIntosh Red, 6.1.
Virginia: Winesap, 20.7; York Imperial, 15.1; Ben Davis, 11.4; Yellow Newton, 7.0; Stayman Winesap, 5.3.
Washington: Jonathan, 13.8; Rome Beauty, 12.2; Baldwin, 7.8; Ben Davis, 7.4; Winesap, 7.1.
West Virginia: Rome Beauty, 18.7; Ben Davis, 15.7; Baldwin, 5.2; York Imperial, 5.0; Grimes Golden, 4.6.
Wisconsin: Northeastern Greening, 11.1; Fameuse, 8.0; Wolf River, 7.5; York Imperial, 5.0; Wealthy, 4.6.
United States: Baldwin, 13.4; Ben Davis, 13.3; Northern Spy, 6.1; Winesap, 5.1; R. I. Greening, 4.7.

In utilizing this information, several facts must be kept in mind. First, the varieties listed are not *necessarily* the best, most marketable and most profitable sorts for the several states, but rather the varieties that grow best therein. Second, this list takes no account of quality (as the popularity of Ben Davis betrays). Third, it does not fully reflect the great importance of certain varieties in extremely restricted sections, such as the preponderance of Yellow Newtown in the Piedmont Section of Virginia, the popularity of the Roxbury Russet around Boston, Mass., etc.

It should be used, therefore, as a basis for more specific choice. Let it suggest the *types* that will succeed best in your state; then decide yourself upon the particular varieties of those types that will supply the quality that your needs indicate. Or, if you are growing for home consumption only, you can take even more latitude since the problems of keeping and shipping are less important.

But if you are wholly at sea and don't know one variety from another, the list will give you a firm foundation; it will point out a line of least resistance in apple growing; it will suggest varieties that are sure to grow; and for which you will be almost certain to find a market somewhere. Recommendations of varieties, for the home garden, with quality as the chief factor, will be found on page 20 of THE GARDEN MAGAZINE for February, 1914.

New York. E. L. D. S.

Winter Duties Continue

IF THE weather is open and the ground not frozen or too wet, sow a row of English peas of the smooth variety, on the first day of the month, again on the 15th of the month, and continue to sow every two weeks until June.

Sweet peas can also be sown this month and according to directions given in the November number of THE GARDEN MAGAZINE.

Plant deciduous trees and shrubs. This may be your last chance, for February is often too wet for planting.

If one has failed to plant bulbs in the fall plant them now, although it is not advisable to select this month, as often in this section the warm weather comes early, and they haven't time for root growth. Some of the bulbs that were planted in pots and buried outdoors in September can be brought in by Christmas and a few every two weeks thereafter, so as to have a succession of bloom until spring. Water them and put them in the cellar, and gradually bring them to the light and heat of a sunny window. Every few weeks throughout the winter plant narcissus in bowls of water and pebbles.

House plants should be looked after daily; cut off all dead leaves and wash off scale on palms and oleanders with a weak solution of lemon-oil, using a small stiff scrubbing brush. Aphis on house plants can be gotten rid of. Placing a small handful of tobacco on hot coals in a pan and put it under the plant. Close the room tight so as to get the full benefit of the fumes. Don't force the plants with strong fertilizers.

Water the plants properly; not too much, nor too little. Too much water makes the earth sour and soggy, and too little wets only the surface and the roots are dry. Amateur gardeners seem to have difficulty in knowing when and how to water. The best test is to rap the flower pot with the knuckles.

If the soil is dry, the pot gives out a sharp ring; if wet a dull, heavy sound.

Each pot should have a saucer under it. Pour on water until it runs into the saucer. Let it remain thus for one hour, and then pour off the surplus water. Another good way is to submerge the potted plant in a deep bucket or tub of water, the water coming up over the top of the pot. Let it remain for a full half hour to soak thoroughly. Do this once a week and wash the leaves at the same time.

Unoccupied garden plots, lawns and fields can have manure spread over them when the ground is frozen.

Trees, shrubs and vines should be trimmed now. In a month's time, it will be too late to do it, as the sap begins to rise.

On the bad days in winter, mend your tools, make labels for plants and stakes for tomatoes. To make simple and effectual tomato supports cut strong stakes four feet long and sharpen them at one end. Cut three notches a foot apart on the stakes, beginning one foot and one half from the sharpened end. These notches keep the twine which ties the tomato plant to the stake from slipping. Tomatoes can be trained to one good strong stake, in the upright fashion, or else boxed in by using four of these stakes in a square around the plant, twining small but strong wire around the stakes, securing them at the point where the notches are. The plant is then supported on all sides and at several stages of its growth. The wires could be twisted around stakes in the winter and put aside all ready to set around the plants in May.

A useful frame for melons can also be made. Cut four pieces of plank one half inch thick, one foot in length and six inches wide. Nail them together to form a box without top or bottom to be six inches in height when finished. Tack over the top a square of planter's cheesecloth. When the melons are planted in the spring, place one of these improvised hotbeds over each hill. It is an excellent protection from moths and beetles, against sudden winds or any change of temperature, and forces the melon to fruition a little earlier. They may be made with glass tops, but the construction is more complicated and costly. Cut the boards to fit the size of the regulation glass, which is ten by twelve inches. Nail the two short boards, which measure eleven inches, on to the two long boards, which measure twelve inches, even and flush with the top, but drop one short board one inch from top. Cut a groove around the inside of the three boards which are even with each other, and slide the glass into it from the end which is an inch lower.

Draw the garden plan to scale on a large stout piece of paper and use it during the year as a guide for planting. If it can be tacked on the wall in some convenient place so much the better. Then make out the orders for seeds according to the space you have, and the number of people the garden is to serve. Order seed catalogues and read the planting numbers of THE GARDEN MAGAZINE for years back. See also the articles by Mr. Rockwell and Mr. Wilkinson on pages 194 and 190.

Make plan for hotbed and at the end of the month or first of next plant some seeds for transplanting to coldframes later—try early tomatoes, eggplant, peppers, as well as pansies, daisies, and snapdragons. Send in your orders immediately, for the planting begins in this section earlier than in the North.

Richmond, Virginia. J. M. PATTERSON.

A New Yellow Clematis

THE cover illustration this month represents Clematis tangutica a comparatively recent introduction from Western China, a handsome, bright yellow, solitary-flowered, hardy, woody vine for summer, a novelty of distinct merit and a real addition to our gardens, as a companion to the common white flowered Clematis paniculata, although it is not cluster flowered. The flowers, here shown natural size, are freely produced in June and August. It is a vine climbing ten feet high. The feathery, silvery gray fruits, which persist into the winter, are also quite decorative.

Index to Volume XX

THE present issue completes the twentieth volume. The usual volume index is ready for distribution and will be sent to any subscriber gratis, on request.

The READERS' SERVICE

Expert aid and advice on individual problems of practical gardening

How to Make Leafmold

I have often read, in THE GARDEN MAGAZINE, references to making leafmold. How does one go about it?—E. H. R., Maryland.

—BY LEAFMOLD is usually meant the natural forest cover composed of accumulated and more or less decayed leaves. For the purposes of the gardener, however, it may often be prepared artificially by piling leaves in a trench or on the surface of the ground whether with or without the addition of manure. sod, or other waste vegetable material and keeping it fairly moist for six months or a year until it becomes thoroughly broken down.

Cement for Tree Cavities

One of the largest limbs on an apple tree has broken off and has left a large hole. I wish to fill it and so save the tree; what kind of cement is used for that purpose?—A. N. P., Conn.

—CAVITIES in trees are generally filled with a concrete made of any standard Portland cement and clean sharp sand in the proportions of one to three to one to five. If the cavity is very large, gravel or broken stones may be added as in making ordinary concrete, or large stones may be imbedded in the mixture as the hole is filled. The most important detail about this work is the clearing of the cavity preparatory to filling it. Every particle of decayed or diseased wood should be removed and the interior thoroughly washed out with a coal tar disinfectant.

Green Lice on Lettuce

What is the best remedy for green lice which attack the lettuce in my greenhouse?—R. M. C., Penna.

—THE commonest materials for fighting aphis are kerosene emulsion, whale oil soap, and various proprietary tobacco preparations. If, however, your lettuce is very well developed, you may not care to use any of these on it, in which case a strong fine spray of hot water applied for a few moments will probably remove most of the insects. Young plants, however, can best be treated with the above mentioned preparations.

Moles in the Lawn

Last year my lawn was plowed up by moles; I used a trap, but without success. What should I have done to have gotten rid of them?—E. H. T., Conn.

—NEXT to traps the commonest method of fighting moles with which we are familiar is the practice of dropping into their runs whenever they are discovered, one or two castor oil beans. It is said that these speedily rid any lawn or flower bed of these pests. but we don't know. It is possible, also, that bits of potato, carrot, etc., poisoned with strychnine and placed in the furrows would be effective. Sometimes the continual use of a fairly heavy roller over the infested area, thus destroying the ridges and filling up the runs will discourage the animals and send them elsewhere.

Proper Soil for Spruce

Do spruces do better on soils that are absolutely acid or have they a preference for soils that have lime in them?—S. V. J., New Jersey.

—ACID soils are usually of one or the other type—a cold, wet, clayey soil caused by the lack of adequate drainage, or sandy soils in which there is a tendency to drought. Since spruces thrive best on a moist soil that is nevertheless well drained, an acid soil might be an indication of a poor medium for its growth. The character of the soil and its moisture conditions would be improved by a generous application of limestone (say 20 lbs. per 100 sq. ft.) yearly and by adequate drainage. The spruce (Picea vulgaris) and silver fir (Abies picea) have been found to grow luxuriantly in a calcareous soil, containing more than 3 per cent. lime (a relatively high content), but equally well in a neighboring strip in which limestone was absent. The conclusion seems to be that the spruce is indifferent to the presence or absence of acidity in the soil, but is affected injuriously by lack of drainage, such as is characteristic of many acid soils—F. W. M.

For Enriching the Soil

Is manure better than slacked lime for enriching the soil?—E. R., Ill.

—MANURE would be better to enrich the soil than lime, as the latter contains no plant food at all and is only useful in improving the physical quality of extremely light soils or extremely heavy clays and in breaking down insoluble compounds and therefore setting free additional plant food.

Herbaceous Plants from Seeds

May I hope to raise good plants from seeds of Miss Lingard phlox, Heuchera sanguinea, Campanula carpatica, anemone Pink, Delphinium Belladonna, Phlox coquelicot, Delphinium formosum, Dianthus White Reserve, Spiræa filipendula, Campanula persicifolia, var. Moerheimei?—L. J. S., New York.

—IF WE should answer your question exactly as you put it, we should say "Yes, you can raise good plants from the seeds of the things that you list." This would be true in regard to their respective vigor, but we suspect that you mean something entirely different. Garden varieties of most plants will not come *true* from seed, although they will be good enough as *plants*. Species, of course, can be raised from seed *true* to type. Different plants vary enormously in their quality of coming true from seed. We would not expect to get even one per cent. true from perennial phlox, and besides division of roots or increase by cuttings is so easy that the trouble of raising from seed hardly seems worth while. Heuchera sanguinea comes true from seed, as it is a botanical species; and so also is Campanula carpatica and Spiræa filipendula. If by anemone Pink you mean a named form of Japanese anemone, we would not expect it to grow true from seed. You would get a large percentage of white and a few off type forms in pink and possibly a few true to type. Delphinium Belladonna will come almost true to type if it has been grown apart from allied forms of delphinium. Delphinium formosum is in the same class and will come very largely true from seed. Dianthus White Reserve or any other will come very largely true, about 90 per cent. when it has been grown under seed growing conditions in a large block of itself by itself. Campanula persicifolia, var. Moerheimei we have never tried. It may come true from seed with home raising, but we should expect, under average garden conditions, that one would get a low percentage of plants true to type.

Lime on Asparagus Bed

Did I ruin my asparagus bed by dressing it with lime last fall?—C. E. M., New York.

—SO FAR as we know the use of lime on asparagus would not be injurious, but as this crop will stand an acid soil rather better than most, we don't believe that any particular good would be accomplished by the practice. You would have done better to have dressed the bed with well-rotted manure last fall when the ground was frozen slightly, removing the coarser part and digging in the finer part next spring. Following this in late March or early April work in a dressing of ordinary salt, say five pounds per hundred square feet, and later, when the shoots begin to appear, give the bed a light dressing of nitrate of soda.

Transplanting a Large Tree

Can I with safety move a large apple tree about fifteen years old, the bole of the tree being about eight inches in diameter?—J. M. J., Quebec.

—IT IS possible that a fifteen-year-old apple tree could be moved without suffering permanent injury. Its crop yielding ability would, however, probably be considerably affected for two or three years. We believe, however, the only way to successfully accomplish this task would be by root pruning first, that is, by digging a trench around the tree some four feet from the trunk and deep enough to cut most of the main roots. This should be done during the summer and the earth thrown in the trench again loosely. By winter the cut roots will have sent out a thick crop of small fibrous feeding roots which, when the ground freezes, may be removed with very little injury by cutting round the edges of the former trench and lifting out the entire frozen ball of roots. While this method is frequently successful in the case of ornamental trees, we are not sure that unless the apple is of considerable value, it would not be wiser to plant a new speciman.

Storing Bulbs

Please advise me how to properly care for dahlia and canna roots and gladiolus bulbs after taking out of the garden in the fall. Should they be divided before being put away?—E. J. G., Ohio.

—THE dahlia, canna, and gladiolus bulbs should be dug before hard frosts and stored in a cool, dry place for the winter. The cellar is used, as a rule, the bulbs of the dahlias and cannas being buried in sand on the floor or in a box. The best way of storing gladiolus bulbs is to place them in common paper bags, a dozen or more in a bag, and hang them from the rafters. If the small bulblets are separated from the parent bulbs, several hundred of them may be placed in a bag. Great care should be observed not to bruise the bulbs, for they are likely to rot at bruised spots.

Japanese Barberry in Boxes

On a low retaining wall between two lots I would like to put boxes and grow shrubs in them as a hedge, instead of putting up a wooden fence. Could I grow Japanese barberry in this way?

— C. D., New Jersey.

— Japanese barberry will grow in boxes if they are wide enough and deep enough. The box should not be less than two and a half feet wide and two feet deep. This barberry makes a tremendous root growth, hence the need of the wide and deep receptacle. California privet might also be handled in boxes very successfully.

Trimming Burr and White Oaks

I have about fifty burr and white oak trees measuring eight to fourteen inches in diameter and thirty to forty feet high. Can they be trimmed without danger of injuring the tree, and at what time of the year is it best to do this?—L. J. P., Iowa.

—Burr and white oaks will stand a reasonable amount of trimming; in fact, they will do better if the dead wood is removed. The danger lies in cutting back the trees too much at any one time. We would advise taking off one third of the growth during the present fall and winter. The following fall or winter another slight reduction can be made. Do this by thinning out entire limbs rather than by shortening back all of the limbs.

Mulching the Lawn

Is it a good practice to leave the fallen leaves of maple and other trees on the lawn during the winter?

—R. M. L., Pa.

—A lawn is certainly better for having some kind of a covering as a mulch during the winter. If the leaves from the maple trees do not make too heavy a covering and if they are taken off early in the spring, the lawn will be in better condition in the spring than if the leaves were removed this fall. The same result can, of course, be obtained by mulching with other materials, such as well rotted manure.

COMING EVENTS CLUB & SOCIETY NEWS

Meetings and Exhibitions in January

8. Connecticut Horticultural Society, Hartford, Conn.: regular meeting.
9. Dobbs Ferry, N. Y., Horticultural Society: regular meeting.
11. Rochester Florists' Association, Rochester, N. Y.; regular meeting.
13. Nassau County Horticultural Society, Glen Cove, N. Y.: meeting.
International Garden Club, Schermerhorn Hall, Columbia University, N. Y. City: annual meeting and lecture on "Trees".
15. Pasadena, Calif., Horticultural Society: meeting.
20. Tarrytown, N. Y., Horticultural Society: meeting.
21. International Garden Club, Gymnasium, The Colony Club, N. Y. City: lecture "Insects and Soil".
22. Connecticut Horticultural Society, Hartford, Conn.: regular meeting.
22. Dobbs Ferry, N. Y., Horticultural Association: meeting.

Note: The Editors will be grateful for information about the doings of horticultural societies, garden clubs, etc., and especially as regards notices of coming events to be announced in this department. In order to ensure timely publication, the information must reach the Editors not later than the *twelfth day of the month preceding the date of issue* in which the notice should appear.

A New Geranium and Five Cannas

THE department of plant registration of the Society of American Florists and Ornamental Horticulturists states that Charles Borrman, Buffalo, N. Y., has registered a seedling geranium, La Favorite x Detroit. Its color is the same shade as Bridesmaid Rose; it is of dwarf habit; the leaves are stocky and have a deep zone.

The following cannas have also been registered by the Conard & Jones Co., of West Grove, Pa.:

Pocahontas (Bronze Olympic). The large, red flowers are borne on firm, upright stems, just enough above the foliage to show the entire head. The foliage itself is a dark bronze-green with emerald shadings, the ribs a darker bronze. Single roots of this canna will produce from five to twelve bloom-stalks in a season, and each stalk makes two or three heads, with from twenty to thirty perfect flowers on each. A truly magnificent sort. An early and continuous bloomer. Height, 4½ feet.

Flag of Truce. A large flowered, green-leaved, cream-white canna with faint pink dots on each petal and sulphur-colored tongue. When a short distance from the flowers they appear pure white. The heads average eight to twelve blooms on each, and each bloom-stalk generally has three heads of flowers, which bloom in succession, thus keeping the plant in bloom all the time. Height, 4 feet.

Dragon. If it were not for Beacon, this canna would be in a class by itself. It blooms incessantly and keeps sending up new bloom-stalks about every week, until cut down by frost. Dark ox-blood red, and especially suitable for mass planting. Height, 3 to 4 feet.

Princeton. An intense bright yellow flower with a decided dash of red in the throat, extending well up on the petals and showing also on the tongue. Its principal value lies in its ability to resist bleaching better than any other yellow canna. It flowers early. Height, 3 to 4 feet.

Gaiety. Is a reddish orange, mottled with carmine and edged with yellow. The tongue is yellow and densely spotted with carmine. When planted in solid beds or rows it produces a dazzling effect. Height, 5 feet.

The International Garden Club

A RECENT interesting event was the acquisition by the International Garden Club of the Bartow Mansion, and twenty-five acres of land on Pelham Bay Sound, for their use as club house and experimental garden. Until the house is ready for occupancy, which will be in April, the club's meetings and lectures will be held at Schermerhorn Hall, Columbia University, and at the Colony Club, New York.

The International Garden Club will coöperate with other garden and horticultural societies, and will be affiliated with foreign organizations. Small monthly exhibitions of flowers and plants are to be held, and women desiring to become teachers in the public school gardens, will be admitted free to the Club's gardens to study under the superintendent.

A Garden Club in Ohio

OUR particular branch of the Garden Club of America came into existence about three years ago. The gardens of the different members are shown during the summer, several in May and June, and later, not more than one a month. In the winter, lectures are given on such subjects as annuals, perennials, bulbs, roses, preparation of the soil, shrubbery, garden planning, and color schemes.

We have bought a lantern and whenever a lecturer has pictures we show them. Also a stenographer takes notes and afterward for a small sum, the members may buy the lecture and preserve the ideas in enduring form.

At the suggestion of one of our members, each person has taken an annual, perennial, shrub, or vegetable, choosing from the different catalogues as nearly as possible all the varieties of that one thing. They are then tried out under the same conditions of soil, temperature and handling, to discover which are really the best. When the observations are completed they will be sent in and put together for our mutual benefit. It is always hard for the ordinary amateur to decide what to order from a catalogue, as each item is labelled "superlatively good" and this system will prevent much confusion.

In the autumn when changes are made in the garden, a great many plants always have to be divided. It often happens that there is no room for them and they are burned. This seems an economic waste so we decided to give the surplus to different charitable organizations to pass along to poor people who would enjoy them and with whom they were in touch. The Home Gardening Association, the Associated Charities, the Public Schools and others, gladly accepted all we could send.

June is the month selected for our Annual Flower show, as more perennials flower then, than at any other season. The last one was eminently successful. It was held at one of our country clubs, a committee taking charge of the affair. The year before the show was held out-of-doors, and a sudden thunder storm threw everything into dire confusion, and made us vow forever after to have it in a water tight building.

A manufacturer of garden furniture, lattice, sun dials and such accessories was delicately approached to see if he would like to exhibit his goods at our show, thereby decorating the ballroom where we wished to have the display. Our man responded cordially and aided us to make a truly charming scene. A white fence, a gate with seats on each side enclosed in lattice and an artistic top shut off the room from the rest of the clubhouse. Down the centre was a pergola, in the corners, garden seats, and lattice against the walls to form a background for the exhibits. Everywhere we had flowering shrubs and vines so that there might be no bare spots. Tables and boxes were covered with brown cloth to simulate earth, and all exhibits placed on them in green pottery vases.

Too many prizes, like too many cooks, spoil the broth, so we have limited ourselves to two silver cups for roses in different classes, a President's cup for whatever she chooses, two club prizes for artistic arrangement, and ribbon awards for everything else. Each person was allowed to invite two friends and at the end of the afternoon a popular vote was taken for the most artistic arrangement. A competitor could use any flower or shrub so long as it grew in her own garden. No names were attached and as the public did not know who had conceived the different creations, there were no politics and the best man won! All the other classes were judged in secret session by the expert nurserymen within a radius of thirty miles, thereby preventing any complaints of favoritism.

An annual show certainly stimulates interest in gardening. Human nature being what it is, most of us like to have it known that we grow the finest Canterbury bells or the tallest larkspur.

Cleveland, Ohio. KATE B. BURTON.

SUGGESTIONS FOR THE HOME TABLE

Conducted by
EFFIE M. ROBINSON
Graduate of the National Training School of Cookery, London, England

Vegetable Oils vs. Animal Fats

I HAVE had the surprise of my life! I have always had a strong prejudice against vegetable oils; I had seen the different, most alluring advertisements of many kinds, strongly recommended both for use in cakes, pastry, and salads, as well as just for frying purposes, but it required an immense amount of will power even to try them. I had been told how certain fats could be used, as described on the tin, for frying "potatoes, onions, etc., all in the same fat" and that no flavor of one food would impart itself to the next, but I myself had not tried it.

At last I plunged! I made a cake, a very plain one, for I confess I really thought it would just be thrown away. Then, I gave it to my family to eat without saying anything. And what do you think the comment was next day? "We liked that cake you made us yesterday; that was something *like* a cake!" Notwithstanding this mark of approval, such was my prejudice that I could hardly bring myself to eat any of the cake, but at last I tried it and found that it really was good, very good, with no faintest trace of the vegetable fat that was used in the making.

The vegetable fats are uniform in texture and absolutely tasteless. Animal fats will often impart their own flavor to the foods with which they are combined or which are fried in them. They cannot be brought to so great a heat as the vegetable fats, as they are more liable to burn, and so they absorb the flavor of the food they are cooking, such as potatoes or onions, and it would be a risky thing to fry doughnuts afterward in the same fat. But with the vegetable fats or oils this is possible; the fat does not absorb one odor and give it to the next article of food.

There are one or two little things to remember when using these vegetable preparations. They contain no salt, so when using as shortening instead of butter, add salt to your mixture. Also be sure and follow the directions on your tin as to measurements. If you do put in as much of any of these vegetable preparations as you would of butter, whatever you are making will be too rich and will not bind together properly. It is a lighter, more digestible fat than lard or butter. You will notice the texture of it and see at once what I mean. Therefore, any more than your recipe calls for will be fatal to the success of your venture.

How to Fry

You will need a deep pan with smooth finish on sides and bottom.

The one called a Scotch kettle is best. And get a frying basket, as they are so convenient for small articles or potato chips. Also have ready a tin or agate plate with soft paper to absorb the grease when the things are draining.

There are two kinds of frying, wet and dry. Wet frying is when the food is plunged into a bath of hot fat and is covered completely at once. Dry frying is that done in a shallow pan, when the article is fried first on one side, then turned and fried on the other. Wet frying is the most digestible as all the surface is sealed at once and the fat is not so easily absorbed. All small things can be done this way.

Boiling Water Bubbles, Boiling Fat Does Not

Remember that the hotter fat gets, the stiller it gets. The bubbles and noise in fat are caused by the water in it and as long as it makes any noise you will know it is not hot enough to fry in. Ordinary fats have a faint blue vapor rising from the surface as soon as the temperature is hot enough—about 360 degrees F. Vegetable oils reach the proper temperature for frying before the smoke or vapor rises. If you have no thermometer to register the heat, drop a small piece of the crumb of bread into the fat. Then count the seconds it takes to brown it. For croquettes, fish and meat, very hot oil is necessary so the bread should take about 20 seconds. Potatoes and uncooked vegetables require about 330 degrees, or about 70 to 80 seconds to brown the bread.

Beware of Accidents

Do not put too many articles in the pan at once or the heat will go down and the fat will bubble up and may boil over, setting you on fire. I have known of one or two quite bad accidents due to carelessness or ignorance in this respect. After browning drain on the soft paper and serve, arranged daintily on paper lace doilies.

Fried parsley is a pretty garnish. Wash fresh green parsley sprigs. Dry by patting in a cloth and after every article is fried take the pan off the fire and dip the frying basket, with a few sprigs of parsley in it, down once into the hot fat, then quickly up again and drain. The parsley will be found quite crisp and still green. When you have finished with the fat let it cool slightly and strain it carefully through a very fine wire sieve or a piece of cheesecloth and set away to harden.

Many people object to the vegetable oils on account of the smell when heated, but you can test the brands for yourself and if the smell is not rancid you may be sure that the product is good. Another thing: there is no danger from tuberculosis if you use a vegetable fat. "Safety first" can better be applied to food than to anything.

Prepared Flour

I have made another discovery lately which is a boon for both cold weather indoors and camp life in summer. Ready prepared doughnut flour. Just think what a lot of preparation it needed to first prepare the dough, and then all the trouble and time it took for frying. I am not trying to save trouble at the expense of what is good. I am simply trying to make things easier; trying to get what is *good*, at the saving of *needless* worry and work. This is a ready prepared doughnut flour. Everything is in—eggs, flour, shortening, the sugar, the spices—all you have to do is to add the water, roll out and cut the dough, and fry it. I really have never tasted better doughnuts than these made with the ready prepared doughnut flour. I have read many times such questions: "Why are my doughnuts always sodden on the outside and hard inside?" or "Why do my doughnuts not puff out properly?" One question after another, which shows that *everyone* these days cannot make them, though our mothers might have been able to. Well, why try? Why not have sure and certain success instead of dire uncertainty, and possibly failure and waste. Other good things to eat are made by the same people that make the doughnut flour and all are time and labor savers.

For instance, have you tried prepared flour, or what some call "self raising" flour? I am using a fine brand of that now and quickly mixed up some dainty bread sticks for dinner recently that were much appreciated; also two dozen buns which turned out so good that I had to repeat the process the next day. The shortening I used each time was first a vegetable fat and then a vegetable oil to test them and they came out perfect in every way. There was no taste of oil and the dough raised beautifully.

Country Life in America

A Glance into 1915

IN the paragraphs below we have outlined but a few of the things that the editors have planned for the coming year. Plans are now under way for a score of additional features that we shall not venture to announce until they are fully in hand. In addition to all of the regular departments, on Better Stock, Dogs, Poultry, The Automobile, The New Business of Farming, The Nature Club, etc., we announce a splendid serial and the following special features:

The Story of Hope Farm

The true story of a real farmer — with the smell of the soil on every page—H. W. Collingwood, Editor of *The Rural New-Yorker* is telling us the story of his farm — the things he did that should not have been done and the things he left undone that should have been done—all with a rich seasoning of Mr. Collingwood's own particular brand of philosophy.

Early American Silver

In the January issue Mr. Lockwood's notable series comes to a close with a profusely illustrated article on Miscellaneous Pieces. Throughout the year the interests of the antiquarian and collector will be served in the highly authoritative manner that has marked the articles by Mr. Lockwood.

Country Life Sports

During the past year the magazine has devoted an increased amount of space to the sports that are associated with country living—golf, tennis, yachting, polo, and the like, to the evident satisfaction of COUNTRY LIFE readers, and there are many treats in store for them during the coming months. A single instance that may be mentioned is an article by Sumner W. Matteson on "Lawn Bowls"—a game that deserves the enthusiastic following in America that it has long received in England, Scotland, and Canada.

Country Clubs in America

The country club flourishes throughout the land, and a host of people depend upon the best of these organizations for the bulk of the pleasure they get from life in the country. Our plans for the coming year include illustrated articles on the best known of these clubs, such as the Piping Rock Club on Long Island, the Merion Cricket Club near Philadelphia, the Chevy Chase Club near Washington, and others. In addition to the inspirational phase, showing what has been done, there is to be an article on the formation, organization, and maintenance of a country club, which will answer all the perplexing questions of would-be founders.

The $1,000 Prize Contest

There are four of the houses awarded honorable mention in the contest to determine "The Best House of the Year" still to be published—every one of them a triumph of design, but all differing widely in style, surroundings, and furnishings. Each is a mine of suggestions for the prospective builder.

The Most Notable Homes in America

We have set ourselves a staggering task — the discovery of the most eminently successful country homes in this country—not the most costly, nor the most elaborate, but the best, regardless of size, style, cost, or ownership. The Editor is now corresponding with architects and other capable critics all over the United States, gathering information as to the most likely aspirants for this roll of honor. So far as possible, the Editor himself will visit the best of these, from coast to coast, and will describe and picture them for the readers of COUNTRY LIFE IN AMERICA. This is the first serious attempt ever made—doubtless because of the size of the task and its inevitable expense—to discriminate to this extent and publish only the highest achievements in country house building. The first house will appear in the March issue, illustrated in part in color, and it is hoped that the series will extend for a year or more.

Gardens with a Personality

We have long preached the gospel of good gardening. The time has come, we believe, to cease preaching for a time, and show results. A country-wide search has for some time been under way, carried on with the aim of finding the very best gardens in America. Here again, as with the country houses, size, cost, and style will vary between wide limits, the standard to be met being that of quality alone. The gardens will be shown in the best pictures obtainable, with just enough explanatory text in the captions to make the aims and results perfectly clear. This series starts in February with the garden of Mr. Alba Johnson at Rosemont, Pa.

Garden Theatres

The garden theatre is one of the most interesting modern developments in country home making—not that it is a new idea, for it is as old as Greece, but it is coming to have a new meaning. Sheldon Cheney has written for us an article telling all about the garden theatre itself, and Ruth Dean follows with an account of the dances, masques, and pageants that have been most successfully given in such a setting.

The Mulberry as a Garden Fruit in Florida

THE Downing mulberry, which has been grown to some extent through the North, originated at Newburgh, N. Y., from seed sown by Mr. Downing himself. I tried it two or three times at Clinton, N. Y., but found it very unsatisfactory in size and quality; although fifty years ago Henry Ward Beecher declared it to be his favorite fruit. Dr. L. H. Bailey, informs me that he does not believe the Downing that is sold at present is the legitimate stock, but something else that has been substituted from the imported Russians.

There are, however, crosses from Downing, growing around in our forests, and the birds will frequently carry the seeds over into our orchards, originating trees where they are not wanted. I have never found one of these worth keeping as the fruit is so very small, and likely to be eaten by the birds as fast as ripe. At any rate none of this fruit compares with the blackberry. The trees are very much inclined to suckerage, and the limbs occupy more space than they can pay for. About 1840 to 1850 mulberry trees of the white fruited sort were planted in New York State, in a vain attempt to feed silk worms and start the silk industry in America. I can show you some of the old trees yet; they were planted by Rev. Hiram H. Kellogg, at one time President of Knox College.

When I reached Florida I found for the first time that the mulberry could be a valuable factor in the fruit garden. Whatever else a homesteader in that State lacks, he is almost sure to have a mulberry tree. You will find him without any other berries, without orange trees and without the almost universal guava and loquat, but a mulberry tree will almost surely lean over his house, and others are likely to surround his pig pen. They make fine shade trees, their long limbs drooping over (almost everything droops here) and carrying a load of fruit of immense size. The earlier sorts blossom about the first of March, and the large, black fruit drops almost as soon as it ripens. So you see it makes an excellent tree where there are hens and pigs.

The earliest sort, which we call Stubbs, has a berry as large as a man's thumb, and the flavor is delicious. But to get the real value it must take the place of the Northern blackberry in pie or pudding. In the north, plant in a sheltered situation and furnish winter protection.

The only drawback is that the fruit falls very freely and stains indelibly. With its drooping limbs this tree makes a splendid windbreak; nearly as good as the oak in the North and the camphor tree in the South.

The Hicks is a later berry, and is catalogued as everbearing which means that you can get fruit from it as late as the middle of July or even into August. It is not by any means as large a berry as the Stubbs, but the flavor is a little more sparkling.

The Ramsey White and the Victoria are credited to the Russian stock, and probably correctly. They give us plenty of good sized fruit of fair quality. What we need most now is something as good as Stubbs, which will be hardy as far north as New England.

The mulberry can be propagated very easily by cutting. Remove a shoot of new wood smoothly from the limb; treat it very much as you would a quince cutting, or leave it full length as you please. If the latter thrust it into the ground for a foot's depth and press the dirt down tight around it. Inside of three months it will be well rooted and by the end of six months you may transplant it to the orchard.

The mulberry bears fruit at so early an age that I have seen cuttings, not more than three feet high loaded with mulberries. I always consider it part of my work as a horticulturist to multiply stock, to sell or to give away, or to fill vacancies in my own garden. I am not sure that it would not be a good plan to grow mulberry bushes, by heading back annually and cutting out shoots especially in a small garden where space is restricted.

Florida. E. P. POWELL.

Burpee's

Annual

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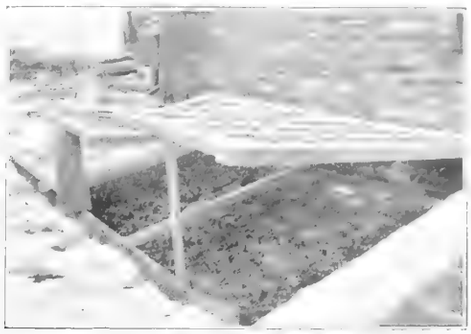
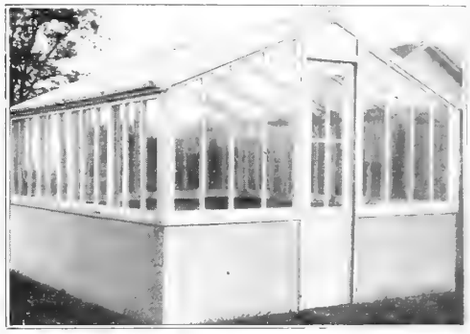


Try a bit of Winter Gardening



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The old style single layer sash have but a single layer of glass which admits the sun, but cannot exclude the cold or retain the heat unless covered with mats and shutters. These extra covers cost twice as much as an extra layer of glass and they must be put on and off daily. It takes two men or a man and wife to lift the soggy mats and heavy shutters.

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