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FIG. 1911. LARGE FLOWERED SWEET SYRINGA.

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THE SWEET SYRINGA.

FEW of the newly introduced flowering shrubs surpass the old and well known Sweet Syringa, or Mock Orange. Scientifically it is known as *Philadelphus Coronarius*, a genus of the botanical order *Saxifrageae*, which contains about a dozen ornamental shrubs.

The Syringa is easily cultivated and thrives well in almost every condition of soil and climate. Nothing is prettier than it when in bloom in the month of May, and its rich green foliage makes it an attractive shrub even when bare of blossom.

It is easily propagated by suckers, so that any one may easily increase the number of his plants and use them for a screen, or a clump on the lawn.

Our frontispiece shows a spray of a very beautiful species, viz., *Philadelphus Grandiflorus*, or large flowered Sweet Syringa, natural size. This is of American origin, having been produced in the Southern States in 1811, and now widely distributed both on this Continent and in Europe. The bush is a more vigorous grower than *P. Coronarius*, often reaching a height of

10 or 12 feet, under favorable conditions, and its season of blooming is two or three weeks later than the common variety.



FIG. 1912. SWEET SYRINGA.

The pruning of shrubs is often perplexing to the amateur, owing to the different flowering habits, some flowering on wood of the current year's growth, and some on that of the previous year, of which latter the Sweet Syringa is an example. Fig. 1912 shows one of them, the top part of which was pruned in May, just before its flowering

season, and, as a result, the whole top part of young growth is without flowers, while the old wood is laden down with beauty. The photograph was taken on June 30th. Had the pruning been deferred until about this date the whole bush would have been a thing of beauty, and the July growth would have been prepared for blooming in 1901.



FIG. 1913. A VIEW IN THE CHERRY EXPERIMENTAL PLOT.

TREES AND SHRUBS AT GIBBLAND FARM,

ABBOTTSFORD, QUEBEC, CANADA.

I WAS much interested in the historical notes presented to the readers of the *Horticulturist* a short time since, by Mr. J. M. Fisk, of Abbotsford. Such records as these are interesting to the reader who scans periodicals without any special point of interest in mind, but particularly to the fruit growers of the day who desire to know who the pioneers were who made the



FIG. 1914. OLD GRAFTED APPLE TREE AT GIBBLAND.

beginnings of an industry which has flourished to such a marked degree in the eastern townships of Canada.

Charles Gibb came to Abbotsford in the spring of 1873. Almost immediately he began the planting of fruit trees. His interest in ornamental shrubs and trees developed or was awakened somewhat later. As I recall it, his first plantings were made with native trees and a row of hardy maples which now

surround the lawn, were among the first trees set out with a view of beautifying the grounds. As time went on and his views on horticultural topics broadened, his interest in beautiful trees and shrubs deepened and his desire to place upon his own grounds specimens of the hardier types became keener each year. His visit to Europe in 1883 did much to increase his interest and his love for beautifying types of trees and shrubs. Between 1875 and '85 many forms of native and foreign shrubs and trees were planted at Abbotsford. The common types, such as cut leaved birches and maples, Norway spruce, Austrian and Scotch pine were planted first. Many of the rarer ornamentals were planted between 1880 and '85. Of course the mistake of planting too closely was not avoided. This is the common error of all lovers of trees and shrubs. When rare and beautiful trees are set out, we should give each tree sufficient space to develop normally. This, of course, is not good landscape gardening, according to prevailing fashion, for in following the most recent types of landscape gardening practically no attention is paid to the tree as an individual. Each variety is used for the purpose of giving mass effects. In following this kind of planting one may use cheap shrubs and trees and often obtain as pleasing effects as with the more expensive. In the planting at Abbotsford, it goes without saying that many ornamentals were set out which failed to endure the somewhat trying climate of the west slope of Yamaska mountain. I recall a beautiful specimen of imperial cut leaved weeping alder, planted in 1882, which survived two or three winters and was a thing of great beauty, but finally succumbed. So did a number of cut leaved Japanese maples, cut leaved sumach in addition to rhododen-

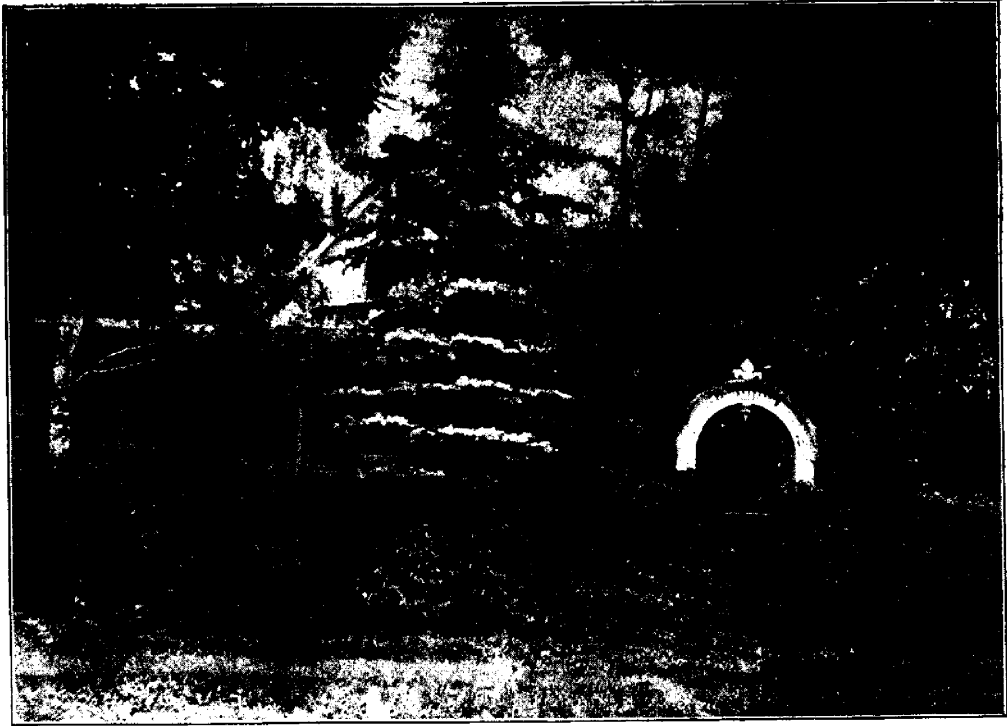


FIG. 1915.

CUP LEAVED BIRCH.

COL. BLUE SPRUCE.

WILD OLIVE.

WITH NORWAY SPRUCE HEDGE IN FRONT. GIBBLAND.

drons, althea, English walnut, and other half-hardy trees and shrubs.

Among the striking trees which remain upon the lawn at the present time are good specimens of Douglas fir, golden retinospora, blue spruce and red cedar; and among deciduous trees, Buffalo berry, wild olive, Scherdlers' maple, grape leaved linden, purple leaved birch, variegated ash and Kentucky coffee tree, are all in good healthy condition and succeeding admirably.

Douglas fir planted eighteen or twenty ago is now between 25 and 30 feet in height, is vigorous, healthy and apparently entirely hardy. This tree is intermediate in appearance and external characteristics between our native balsam and spruce. The leaves are much longer than spruce and are soft, being entirely without the prickly character-

istics of white or blue spruce. Golden Retinospora is a variation of the common type *Retinospora plumosa*. It must be confessed that the tree is more beautiful in youth than in maturity. When young—5 to 10 years—it is compact, owing to the peculiar character of its leaves and twigs, the general expression is feathery and beautiful, but as it grows older the branches become less densely clothed with the plume like foliage and the tree takes on a somewhat unclad expression which detracts much from its beauty. For best effects this tree should be planted in clumps and in masses. In spring this foliage is distinctly and markedly golden tipped. The deep yellow tints fade off somewhat during the summer, but it is a striking and attractive form at most seasons of the year. Blue spruce (*Picea pungens*) is so well known



FIG. 1916. A VISTA IN GIBBLAND FARM.

that nothing need be said regarding its many good points. A tree of this type should always be planted where it can develop symmetrically. The natural habit of the branches is such that if crowded on one side by encroaching trees or buildings much of its natural beauty will be taken away. Red cedar though a common tree in western and central Ontario and the middle states, is very slightly known in Quebec. A clump of the western type was planted in the lawn at Gibbland in 1881. They have grown slowly but have fruited profusely for the last eight or ten years. This tree does well either singly or in masses.

Buffalo berry was secured by Mr. Gibb from the western states about twenty years ago. A group of these was planted in the lawn also; fortunately, both sexes were secured and the trees have fruited abundantly for several years. In the autumn, when they are loaded with their masses of light red berries, they are even more beautiful than during the early summer months when carrying their covering of silvery leaves.

Another tree which is becoming popular in the west and which was introduced into Quebec by Mr. Gibb about the same time, is the oleaster or wild olive, *Eleagnus angustifolia*. This tree is being freely planted in the upper Mississippi Valley states. The clear silvery expression of the foliage is strik-

ing. The tree is a rapid grower, stands cold and heat well and is useful as a wind break and as an ornamental. From my observation of this tree, I am of the opinion that it is more at home in the hot and dry western country than in the humid region of the east. At all events it is a desirable shrub to introduce in the lawn for the purpose of adding variety to landscape coloring.

For the same purpose the purple leaved birch and Schwerdler maple, a red leaved type of the Norway spruce, are very useful. They have both succeeded admirably at Gibbland Farm.

PINUS EXCELSA (*Bhotan pine*).—This tree is practically the European white pine. A casual examination might easily lead one to believe that he was looking upon a slight variation of the ordinary type of our American

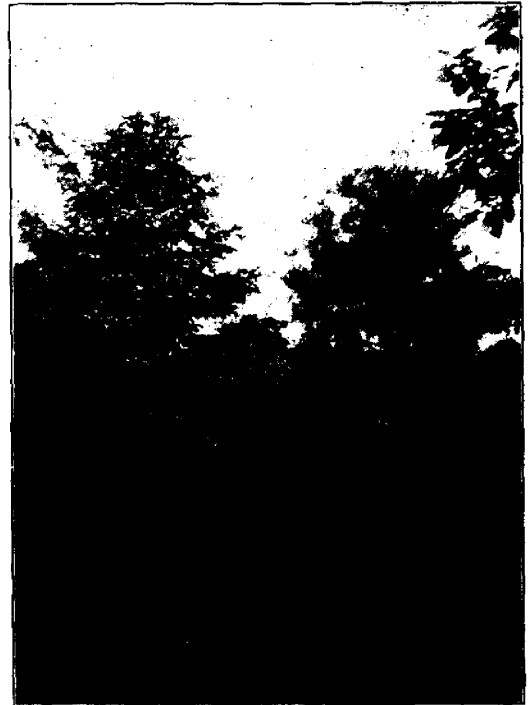


FIG. 1917.

DOUGLAS PINE (Pseudotsuga Douglasii.) BHOTAN PINE (Pinus excelsa.)
20 to 25 ft. high. GIBBLAND.

Pinus strobus. We learn that Bhotan pine is found in the Himalayas at elevations between five and ten thousand feet. This is its home. Here it flourishes, growing frequently to the height of 150 feet. Brown, the noted Scotch forester, states that it was introduced into Britain in 1823. It appears never to have been very widely cultivated, but specimens are found scattered throughout the British Isles and in America; one frequently meets with it in the New England states. Like white pine, the leaves are found in whorls of five. They are glabrous on their inner faces and a blueish green without. The cones are produced singly, are cylindrical and slightly conical in form.

The tree has a very general resemblance to the white pine. The distinguishing points are the leaves and the cones. The former

are longer and the latter more slender. In outline, the Bhotan pine is tall and distinctly conical. The specimen at Gibbland farm was planted in 1878. It is now something over twenty feet in height. Not quite as tall as a Douglas spruce along side of it which was planted at the same time, (see illustration.) The wood of Bhotan pine does not appear to be as much prized as White pine, being somewhat softer in texture with less strength. The chief uses of this tree then are those which serve the aesthetic, and tend to please the eye. In outline it is handsome and symmetrical. In shading and coloring, like all silvery leaved trees in the early part of the summer, it is particularly soft and beautiful.

JOHN CRAIG.

Cornell University,
Ithaca, N. Y.

OUR FRUIT MARKETS.

LOOKING at the value of our Winter Apples from the standpoint of the fruit grower, we are inclined to take the views of apple buyers *cum grano salis*. First, we are told of the enormous crops in England and on the Continent then that the crop of North America is equal to that of 1896, when prices ruled so low in the month of December that many shippers only received about enough to pay freights, and had better have left their apples to waste in the orchard.

It appears that these buyers have met in Toronto and agreed to pay only 50c. a barrel for winter apples! Are we growers to have such a low price put on our goods as this and submit without a word? The fact is that these buyers are organized and will act in concert with regard to the purchasing price, while we growers, having never agreed about the selling price, are simply at their mercy, and must take what they choose to offer.

Were it not for the organization of the buyers, the law of competition would get us fair play, but as it is what can we expect but to suffer from a disadvantage? But even this condition of affairs may not be an un-mixed evil, for it will lead to a new system of fruit shipping, sooner or later. At Grimsby, for example, eight of us, who have large orchards, have united for the purpose of packing our fruit uniformly and making up carload lots for export on our own account. We grade our finest colored apples with Wartman's grader, making apples $2\frac{1}{2}$ inches in diameter No 1, $2\frac{3}{4}$ A No. 1 and 3, Extra A No. 1; or, instead of Grade we sometimes use the words Diameter $2\frac{1}{2}$ inches, etc. We wrap them in tissue paper and pack them in boxes, with excelsior or sphagnum packing. Then we use a uniform set of marks, so that the goods we ship are at once recognized, and will command their true value in any market

There is very little difficulty in making up car lots at any time, for each man need only furnish one-eighth of the lot, and if there is anything to be made, we get it.

And now regarding the outlook for our apples this fall. We have numerous circulars from apple receivers. For example, Jas. Lindsay & Son write as follows:

As the apple season is now about to begin, we beg to advise you that the prospects with us are as follows: Green fruit, for cooking purposes, is very abundant, especially the English crop, also the continental crops are advised to be very heavy, and as the shipments from this quarter mostly consist of cooking apples of a green nature, then we advise you that in the early part of the season green fruit will not do to ship from your district, as it would have to contend with a market that was heavily supplied of the kinds mentioned above, shipped from England and the Continent. The rates from these places being much lower than the rates from yours to ours it would only cause a loss to you to send fruit of this grade. The only kinds that will pay to ship in the early season are the colored varieties, such as Kings, Spitz, Spys, Baldwins, Vanderveers, Wagners, Blush, good clear sound Snow's, and any other good colored variety of a good carrying quality. It is also our opinion that it will not do to ship common qualities this year. The expenses are too heavy, and before that such could be cleared there will be nothing left for the goods, should they even manage to clear expense, which would be doubtful.

No doubt this gives us a good idea of the condition of things in Great Britain; but as regards the crop of this Continent we think it is an over-estimate to say that it will exceed that of 1896. Possibly the gross results may equal 1896, but the quantity of No. 1 stock will be much less than a general survey of the orchards would indicate.

In the first place, from one-third to one-half of our fruit will be unfit for export from the ravages of codling moth and apple worm. These insects grow more troublesome every year, and no fruit infested with them should be sent forward.

In the second place, a large percentage of the clean, perfect fruit will be too small to export. No apple of such kinds as King, Greening, Baldwin, etc., which is below 2½ inches in diameter should ever be put up for this purpose; and if this rule be applied,

as indeed it should be, there will be plenty of room in the old world for all our fruit. It would be a good law which would compel every packer or shipper to stamp on the outside of each package the minimum diameter of the fruit inside, for this would help buyers to buy with confidence.

Another outcome of the low prices and consequent dissatisfaction on the part of the grower is the Packing Company, a business conducted after the model of the Packing Companies of California. Van Duzé & Griffith, Grimsby, and E. D. Smith, Winona, are examples of this method. Fruit is purchased by grades, to facilitate which orange graders have been imported from Ohio. The price offered varies according to the grade, which is soon settled when the fruit has passed through the machine. Suppose, for example, ten baskets of peaches are brought in by John Smith, who is to receive 60c. for A1, 40c. for No. 1, and 20c. for No. 2; the grader turns out—

3 A1 at 60c. .\$.1.80

4 No. 1 at 40c. 1.60

3 No. 2 at 20c. 60

Or a total of .\$.4.00 for the ten baskets.

John Smith is perfectly satisfied with the result, but goes home inwardly resolved that in future he will take care to grow no more No. 2 peaches, and if possible to grow all A1; a lesson he would never learn if he had sold the whole in bulk at perhaps 30c. a basket.

This means that John Smith in future will cut out or top graft over all poor varieties of fruit in his orchard, give better cultivation and manure, prune and thin, until he reaches an ideal product, which will command the highest price in any market in the world.

Already our efforts in the direction of improved packing are being appreciated abroad. An English trade paper says:

We are particularly pleased to testify to the quality of the Canadian fruits. They are far

superior to the American, the flesh of the fruits is finer, more juicy and toothsome, whereas a good many of the California Newton apples are hard and quite different to those sent from Canada. This is proved indirectly by the excellent prices which rule for the best Canadian stuff. We throw out a hint to the retail fruiterers and

dealers in the cities and towns of the United Kingdom. Why not ticket these fruits as "Canadian"? If that were done the public would do its duty without hesitation, and a taste of "the real thing" would soon create an immense demand for the finest of fruits from the fair Dominion of Canada.

CANADA AT PARIS.

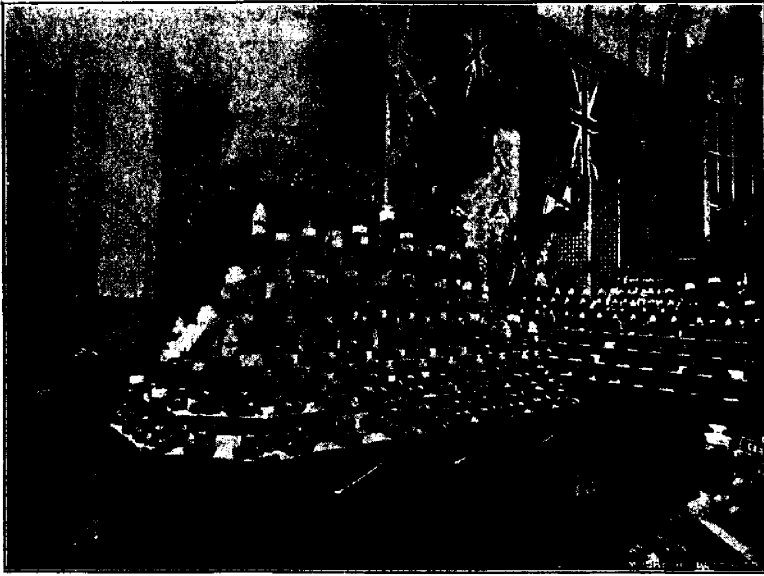


FIG. 1918. HORTICULTURAL DEPARTMENT OF THE CANADIAN EXHIBIT.
DISPLAY OF APPLES AND OTHER FRUITS.

THE REPORTS that come to us concerning the fruit exhibit from Canada at the Paris Exposition are most satisfactory, and our readers will be glad to have a glimpse of the display of apples of the crop of 1899, which were collected by Mr. A. McAllan, of Goderich for Ontario. All provinces which grow apples for export were represented but we have not the names of those who collected for the other provinces.

The writer has also forwarded 32 cases of apples peaches and pears of the current year's crop, which were taken in cold storage

to Manchester, and are to be forwarded thence to Paris.

The varieties sent included; — *Peaches*, Elberta, Lord Palmerston, Late Crawford; *Pears*, Flemish Beauty, Triomphe de Vienne, Duchess, Louise, Howell, Clairgeau, Anjou, Souveinir de Congres and Diel; *Apples*, King, Greening, Cranberry, Cabashea, Maiden's Blush, St. Lawrence, Swazie, Golden Russet, Black Detroit, Ontario, Wealthy, Spy, Pewaukee, Stump, Colvert, Bottle Greening, Mann, Alexander, McIntosh, Fameuse, Ribston,

PICKING AND PACKING APPLES.

USE ladders of proper length to reach well up to the top of the tree. Use half-bushel baskets with hooks on handles. Be very careful in handling ladders. Commence picking about ten days before all the apples on the trees are ripe, and (in red varieties, especially Rome Beauties) only pick those that are of a good red color and would be likely to drop before all would do to pick—say about one-fourth of the apples. This saves the ripest and lightens up the tree. In about ten days, or at the usual time of commencing, pick the orchard over again and take at least half this time of the best colored apples.

Then, in about ten days, commence the third and last picking, and by this time and mode of picking the apples will have grown and colored up so they will be about all good, salable apples and the increase in color and in size of the apples will pay for all the extra work and give you a handsome profit besides.

I take my barrels to the orchard and fill them from the baskets as they are brought from the ladders, putting the baskets down in the barrels and turning them over with great care. Haul them to the barn immediately and not let the sun shine on them or let them get wet. Store the barrels on a

dirt floor, the best because coolest and dampest. When you want to pack them have a table about ten feet long by three wide, with side boards about eight inches high. Line the table with carpet. It need not be Brussels. Pour out three barrels on the table at a time. With two men to sort, use six baskets. Make at least three grades of apples, putting the very largest in one basket and the medium size and the good colored ones that are a little below that size in another basket. Put the small and the culls in another basket. In filling the barrels with the different grades, pick out nice, smooth, well colored apples and "set" or "face" the heads of the barrels with them, leaving the very largest apples of each grade to fill in the middle of the barrels, so that if the buyer turns out a barrel he finds the best apples in the center of the barrel. Fill the barrels up and level the apples to the top of the staves. Press the head in so that not an apple will move in the barrel. Nail hoops well and turn the barrel over and put your name on the other head with the variety of apples and number of grade. If you pack and grade thus you can always find market as soon as your name is known.—*Fruit Trade Journal.*

RED APPLES, WELL PACKED, WANTED IN GERMANY.

Edward Jacobs & Sons, Hamburg, write under date of Aug. 10: "The home crop is more abundant than last year, but the demand for American and Canadian apples increases year by year, and we have every reason to believe that good average prices will be made. The red varieties are in

most request. Very few Greenings and Russets are inquired after, so we should not advise too many of the latter sorts.

"We must impress upon all shippers to see that the fruit is carefully graded and that the apples are put up in a manner that they arrive in good order and not slack."

A HOME-MADE CIDER PRESS.

ON the farm where there is no cider mill, a large number of good apples are wasted every year. These might be converted into cider. The accompanying illustration is

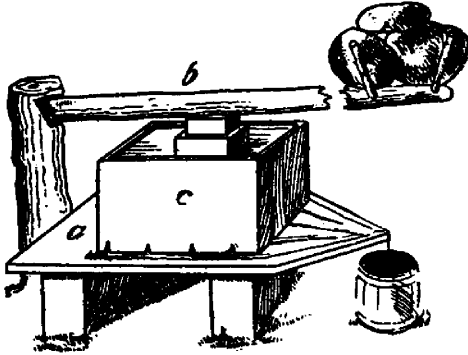


FIG. 1919.

THE CIDER PRESS IN POSITION.

of an easily made press for the purpose of utilizing those apples. Simply procure a plank about 4 foot in length, and as broad as available, and a stout pole, *b*, 15 to 20 ft. long. Make a frame or vat, to hold the apples to be pressed. It can be constructed of 1 in boards, about 1 ft. square. Set this vat on the plank, *a*, and have a channel cut round it in the form of the letter Y. Place the plank and vat at the base of a tree or

stump, using a few blocks to raise it from the ground one or two feet. Now cut a deep notch in the tree or stump about 1½ or 2 ft. above the plank and insert the heavy end of the pole. At the other end of the pole set four pins as shown.

The apples to be squeezed with the press are thrown into the vat a few at a time, and a heavy wooden stamper is used to crush them. When the vat is full of the broken-up apples, a wooden cover, fitting inside of the vat, is laid on top. A few blocks are placed on top of this cover so as to allow the pole to press down on the movable covering. The pole is weighted down with heavy stones or boulders placed between the four pins at the end remote from the press. Cut several small V-shaped openings round the bottom of the vat, or make a system of channels, connecting with the large channel to collect the juice and permit it to follow the course along the plank until it reaches the vessel used to receive it.

The illustration shows the press when completed and also explains the manner of using it. I can confidently assure any farmer readers that this press, which will cost practically nothing, will give entire satisfaction.—*American Agricultural*.

CIDER MAKING HINTS.

THE present season with its promising apple crop will undoubtedly see a great deal of cider and vinegar made. The prevailing idea that cider can be made from any kind of apples, may result in a great deal of poor cider and consequently poor vinegar. Especially is this true in sections where premature dropping is more

common than usual. An attempt will undoubtedly be made to utilize this partially matured fruit by making it into cider. This may be the best means of disposing of it, but good cider cannot be expected from such fruit. It will be thin and watery and vinegar made from it will contain a small percentage of acetic acid. As most states

require 4 to 4½ per cent of acetic acid, vinegar made from poor cider must be tested before being sold.

As the amount of acetic acid in vinegar will depend primarily on the percentage of sugar which the cider contains, it can easily be seen that to have the best cider and cider vinegar, well-developed apples containing enough sugar to make at least 6 per cent alcohol must be used. They should not be of the very sour variety nor of the very sweet. Russets, Smith's Cider, Snow and those of that class are the best. However, by judiciously mixing sweet and sour, a high-class product results.

Another element of success is a clean cider mill. Of course, up-to-date cider makers have improved machinery and keep their buildings and presses perfectly clean, but in many of the apple-growing sections, there are small mills and presses. These are seldom in best condition. All apple pomace should be removed as quickly as possible and not allowed to decay near the mill. The crushing rollers and the presses should be cleaned frequently and fumigated, if possible, by the use of burning sulphur. If the pomace cannot be utilized for stock feed, it

should be hauled away and spread upon the land as fertilizer where it will be of the most benefit. All tanks and utensils used about the mill, where fumigation is impossible, should be scrubbed with lye from wood ashes or a strong solution of crude potash.

If the utensils are so old that taint or smell cannot be removed by this process, it pays to abandon them and get new ones. Where satisfactory conditions concerning surroundings cannot be obtained, it is best to haul the apples to the cider mill, have them worked up at once and take the cider home the same day. This prevents the absorption of objectionable odors and reduces to a minimum the evil effects of a poorly kept cider mill.

After the juice has been extracted from the apples, the cider should be kept at a temperature of about 65 degrees if possible, where wanted for use as cider. Even then fermentation will soon begin. After a few days the cider can be racked off into barrels which have been well cleaned. Fermentation, or at least the tendency to turn to vinegar will be checked.—*American Agriculturalist*.

MARKETING THE PLUM CROP.

In most cases experience has proven that plums, if shipped to market in 10-lb. grape

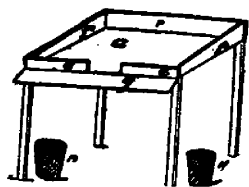


TABLE FOR ASSORTING PLUMS.

baskets, provided with handles, and put up in neat, presentable shape, will bring the producer a greater percentage of profit than if shipped in half-

bushel or bushel crates or packages. A careful picker can fill the basket direct from the tree, but the usual plan is to pick into

large receptacles, then, carefully sorting the plums, place in packages ready for market. This frequent handling removes a great deal of bloom from the fruit, which removal should be avoided as much as possible.

By the use of a single table as illustrated, plums and other similar fruits are easily assorted. The top of the table should not be over 3 x 2½ ft. The sides and back, *r, r, r*, may be 8 in. wide at the back, tapering to 3 in. in front; the front guards, *c c*, should be less than 3 in. high, leaving a 6 in. space between the inner ends; the

slanting board, *g*, is 6 in. wide. To operate it, place the fruit carefully upon the table, the assorter occupying a chair in front of the table, with a basket on his lap. Both hands can then be used in removing the leaves, limbs, damaged or imperfect fruit, throwing the refuse into baskets, *n, n*, on the floor. The perfect fruit, or that intended for shipment, is rolled in front,

and passes over the incline, *g*, into the basket. This table need cost but little, and may be made in as crude or elaborate a form as wished. In working, the elbows can rest upon the guards, *c c*, which will make the operation much easier. An ordinary table can be fitted with these simple appliances and quickly removed after the shipping season is passed.—*Farm and Home*.

YORK IMPERIAL APPLE.

The York Imperial is being so extensively grown in New Jersey that it was judged expedient by the Executive Committee to insert a plate showing three distinct forms often occurring on the same tree, kindly loaned to us by the Pennsylvania Agricultural Experiment Station and to give a description of the apple as it appears in bulletin No. 43 of same station as follows: "York Imperial:—Sometimes listed in catalogues as Johnson's Fine Winter, and in its native county sometimes referred to as the Shep apple, Shep being a word of the Pennsylvania German having reference to the oblique shape of the fruit. The tree is a vigorous grower with slender, drooping

branches after the manner of Ben Davis. It comes into bearing at four years after planting, bears regularly and heavily. The foliage is remarkably free from scab. The fruit is of medium size, oblong, angular, oblique, smooth, skin yellow and almost wholly covered with two shades of red, the darker one disposed in indistinct stripes; basin deep; cavity deep and narrow, stem short; flesh yellow, juicy, firm, sub-acid, good; season late winter, a good shipper, bringing high prices." Mr. DeCou: I think it is a mistake to speak of the Yorktown Imperial as a second variety. It sells second alone to Newtown Pippin in the English market.—*New Jersey Horticult. Report*.

AN ARSENIC PREPARATION.—The spraying mixture formula by Professor Kedsie of the Michigan Agricultural College, is as follows: Boil two pounds of white arsenic and four pounds of salsoda for fifteen minutes in two gallons of water. Put into a jug and label "poison," and lock it up. When you wish to spray, slake two pounds of lime and stir into forty gallons of water, adding a pint of the mixture from the jug. The mixture in the jug will cost 45 cents, and this is enough for 800 gallons or twenty barrels of spray. These twenty barrels will require forty pounds of lime, which will cost twenty cents more, making the total cost 65 cents

for twenty barrels, or $3\frac{1}{4}$ cents per barrel. It is claimed that Professor Kedsie's mixture is more reliable in use than Paris green as an insecticide, that it does not burn the trees and is less expensive. Professor L. R. Taft, of the Michigan Agricultural College, thinks the salsoda in Kedsie's spraying mixture is unnecessary, and as it adds greatly to the cost of the material he does without it. He says: "I prepare the arsenic mixture by boiling one pound of arsenic with two pounds of lime in two gallons of water, for 30 or 40 minutes; and for fruit trees I add this to 400 gallons of water or Bordeaux mixture."—*California Fruit Grower*.

PARASITIC FLOWERING PLANTS.

A NUMBER of our indigenous flowering plants have not hitherto been successfully cultivated. Some of them when in bloom would be very attractive objects in the flower garden, for they are both beautiful and showy. The difficulty has arisen from inattention to the fact that they are root-parasitic. It is not supposed that they are wholly dependent upon their host plant for food; in fact it has been demonstrated that some of them are not, but nevertheless they are not vigorous and healthy without the nutriment derived from the host. They grow from seed just as any other seed bearing plant; are nourished for a time by their cotyledons, their root extending into the earth and branching out in search of food supply. Upon the branching roots suckers are formed, which attach themselves to the roots of the appropriate host, and draw from them the required nutriment.

At present it is not known what plants are chosen as host; whether each requires its own particular host, or uses indifferently any one of several that it may chance to find within reach. Here then is an interesting field for original researches. Who will work it and thus contribute a new item to the sum of human knowledge? Without waiting for this the gardener can note what plants are growing within reach of the one he wishes to cultivate, and by growing them in connection with it secure the required host.

The parasitic plants that will be named are only such as one might desire to cultivate for the flower garden, and are all to be found growing wild in Ontario. Two of these are perennials, which when properly taken up can be transferred immediately to the flower border; all of the rest are annuals that must be grown from seed. With regard

to the perennials it is important to bear in mind that the suckers are developed only near the extremity of a rootlet, which forms the terminus of the fleshy roots, radiating horizontally in all directions. About the time that the seeds ripen that portion of the host's root which has been fed upon will have decayed, and the suckers getting no more nourishment also perish. Obligated now to seek supplies elsewhere the tip of the root begins to extend itself and continues to elongate until it meets with a live root of a suitable host plant, and then it develops a new sucker upon the newly found root. These perennials are the two which will now be briefly described.



FIG. 1920—WOOD BETONY.

PEDICULARIS CANADENSIS—Linnaeus. Wood Betony. A low growing plant bearing red or yellow flowers in short spikes, with fern-like foliage, blooming in May and June in dry woods throughout Ontario. It is very abundant in the neighborhood of Toronto. (See Fig. 1920) an outline sketch of a small flower cluster with only the stem leaves.

PEDICULARIS LANCEOLATA Michaux. Swamp Lousewort. The flowers of this

species are yellow, blooming from August to October. Grows in grassy swamps in Cayuga, Haldimand County, and in Malden, Essex County. (Maclagan.)

In growing the following, which, save one, are annuals, or at most biennials, it will be necessary when gathering the seed, or before, to make careful note of the plants growing within reach of their roots, and to either secure seed of all of them or to transplant them to the border, so that the roots of the Parasite growing from the seed may have no difficulty in finding very soon the roots of the host.

CASTILLEIA COCCINEA, Sprengel. Scarlet Painted-Cup. This very showy scarlet-bracted annual or biennial grows in warm, sandy soil, from Belleville, Hastings County, to the Detroit River, and is in flower from May to July. Mrs. Traill in her studies of "Plant Life in Canada," says of it: "The whole plant is a glow of scarlet, varying from pale flame color to the most vivid vermillion." It used to be abundant on the banks of the Humber River, near Toronto, but it is gone; the beauty of it caused every



FIG. 1921—SCARLET PAINTED CUP.

one to pluck it; so no seed could ripen. Thus it is with many of our wild wood beauties; they are fast disappearing.

See Fig. 1921, showing stem leaf and a separated flower.

CASTILLEIA ACUMINATA Sprengel. Lance-leaved Painted-Cup. This is perennial, the bracts are yellowish or greenish,

and is in bloom from June to August. It grows in moist soil on Michipicotin Island, and at the Hudson Bay Post, entrance to Nipigon River, Lake Superior. (Macoun.)

DASYSTOMA PEDICULARIA, Benth. Fern-leaved False Fox-Glove. A beautiful plant, both in foliage and flower; its numerous orange-tipped, half-opened buds, profusely scattered among the fully open, rich yellow blossoms give to it a very attractive appearance. It is yet abundant in the dry, light soil of the wooded banks of the Humber River, near Toronto; where it may be found in bloom in the month of August. Reported at the Niagara River and Burford Plains, Brant County.

See Fig. 3, an outline sketch of one side of a branch, showing an open flower and leaves.

DASYTTOMA VIRGINICA, Britton. Smooth False Fox-Glove. Is usually to be found in company with the species above named; it is of a more robust habit, foliage reminding one of that of the oak, hence the name given to it by Pursh, "Oakleaved." The flowers are large, an inch and a half to two inches



FIG. 1922—FALSE FOXGLOVE



Fig. 1923—GERARDIA.

long, of a light yellow. Abundant near Toronto, blooming in August, and reported at the Niagara River, in Cayuga and Malden Townships (Maclagan); near Hamilton (Logie), and near London (Saunders).

GERARDIA PURPUREA Linnaeus. Large Purple Gerardia. Plant grows from one to two feet high; bears broad purple flowers an inch long in August and September. Found at Niagara Falls (Burgess), and Windmill Point, Lake Erie (D. F. Day).

GERARDIA PAUPERCUA Britton. Small-Flowered Gerardia. This is from six to

twelve inches high, exceedingly pretty, with numerous rose-purple flowers about three-quarters of an inch in length. It is very abundant in the moist sand of Toronto Island, blooming there in August. Its range is from Ottawa to the Lake of the Woods, in moist soil. See Fig. 1923, showing a branch with flowers.

GERARDIA TENNIFOLIA Vahl. Slender Gerardia. A very slender plant, from six to 24 inches high, with narrow linear leaves and light purple spotted flowers less than an inch long, appearing in August. Macoun says on dry, sandy banks of the Humber River, near Toronto, but the writer has not yet been so fortunate as to meet with it there. On Prince's Island, near Hamilton (Logie); in Niagara and Malden Townships (Maclagan).

Toronto.

D. W. BEADLE.

SOME APPLE LORE. — Apples were formerly underestimated, they were scarcely considered a fruit rare enough for the consideration of the epicure, unless, indeed, they formed a part of some elaborate dessert, compounded and cooked by a skilled housekeeper. Apple jellies, puddings, pies and cakes might do, but plain raw apples were fit only for school-children, vegetarians, or the poor. All this is now changed and the apple has come to its own again. But if its flavor has been at various times slightly esteemed or discredited, at least its wholosomeness has been steadily recognized. "Apple sayings" are frequent, both in our country and in England, all of which testify in favor of the fruit. In the "west cuntry" there are four such :

An apple a day
Sends the doctor away,

is the first and briefest. Then follow in the order of their vigor, three more :

Apple in the morning,
Doctor's warning.

Roast apple at night,
Starved the doctor outright.

Eat an apple going to bed,
Knock the doctor on the head.

A little less aggressive is one of the Midlands :

Three each day, seven days a week,
Ruddy apple, ruddy cheek.

More interesting than these is an old orchard verse which used to be recited on certain ancient farms on the plucking of the first ripe apples of the crop. Misfortune was supposed to follow its omission, and its utterance was quite a little ceremony, the first apple over which it was spoken being presented to a young girl, who halved and bit it before any further fruit was gathered, or at least tasted. Thus it ran :

The fruit of Eve receive and cleave,
And taste the flesh therein ;
A wholesome food, for man 'tis good
That once for man was sin.
And since 'tis sweet, why pluck and eat,
The Lord will have it so ;
For that which Eve did grieve, believe
Hath wrought its all of woe—
Eat the apple !

S. REYNOLDS HOLE, D. D.



FIG. 1924. VERY REV. S. REYNOLDS HOLE, D. D.
Dean of Rochester.

AFTER reading that charming book "Our Gardens" by Dean Hole, we feel justified in giving place to a paragraph concerning this notable gardener clergyman, which appears in the *Agricultural Epitomist*, as follows:—

"Wit and wisdom in a delightful intermingling are embodied in the personalty of the genial Dean of Rochester, and the same blend of happy qualities shines in all his writings.

"No wonder he is welcome and beloved by men in every class and station, but above all by those who share his passionate affection for flowers and garden.

"At eighty years of age he is the delight of all who know him personally or by reading his books. His 'Book about Roses' has run through fifteen editions, and is still 'run-

ing' if I may copy a phrase from the advertisements with which Mr. Penley booms his laughable play of 'Charley's Aunt.'

"To read one of Dean Hole's books is a kind of feast for an epicure. The solid food of information is so varied by the appetising adjuncts of wit and humour that nothing palls or satiates the reader. You commence with a few striking phrases which arrest the attention and stimulate the mental appetite. You are easily carried on through course after course of interesting matter. You find yourself deeply absorbed, before you know it, in the solid discussion of the main subject. By and bye a whimsical reminiscence lightens your reading ere your attention is tired and can begin to flag. Then come courses of sweets and you finish the book with satisfaction as you would finish an excellent dinner skilfully arranged by a master of cuisine and faultlessly cooked and prepared for you.

"Let me give an illustration or two from memory. I remember the opening phrases of the 'Book about Roses.' The idea they embodied arrested and stimulated my attention instantly. I felt the truth of them and the force of them. They declared that he who would have beautiful roses in his garden must have beautiful roses in his heart.

"I remember, too, a skilful enlivening by Dean Hole of his dissertation on manure for roses. I am myself engrossed in the question of manures. It is a question which fascinates me because I think I see in it the solution of the problem of humanity. The increasing crowds of men growing ever more dense as civilization advances will either become happier and further removed from want and misery as they grow thicker on the ground, or they will become a struggling mass of wretched and desperate competitors and antagonists. It is all a question

of conservation of manure of increasing or exhausting fertility.

"In this spirit I can read M. Ville or Justus Van Liebig with inexhaustible interest.

"Now when I came to Dean Hole's chapter on manure I wondered how he would treat it. I was not disappointed. The substance of information and advice was all there. So were the wise thoughts and deductions. But in the midst of the essay on what is necessarily a scientific and practical subject, there was a touch of enlivening comedy skilfully introduced as Shakespeare brings in the farcical interlude of comic grave-diggers to relieve the too deep interest of Hamlet.

"This is how I remember the incident in the chapter.

"The Dean is anxious to impress the reader with the value of horse-droppings for roses. He impresses the importance of saving and utilising so precious a material. He mentions his own high estimate of dung. And then comes the story.


"He was returning to the Deanery one

day from a round of duty visits, and as he approached the home up the garden drive, he noticed that visitors had been in a carriage. Their horse or horses in quitting his home had dropped liberal deposits. The opportunity was not to be lost. He hastily turned into a side shed, secured a shovel, returned to the gravel path, picked up the deposits and hastened off with them to enrich the roots of some of his beloved rose trees. As he entered the Rosary—horror of horrors!—he met full face a party of ladies in holiday garb and smiles! The visitors in fact had not departed, but were still in the garden, and their first meeting with their host was under circumstances which caused his cheeks to emulate the glow of his own most deeply tinted rose-buds!

"There I think my recollection of the book and its apt enlivening is a fair tribute to the skill of the author. In the same way I could fill many columns with memories of his 'Memories.'

"May he be preserved to us until he is a hundred at least."

A NEW PACKING MATERIAL FOR FRUITS.

N interesting experiment has just taken place in the matter of packing fruits in the colony of Victoria for shipment to England.

As is pretty generally known, apples and pears are now brought from the Cape of Good Hope and from the Australian colonies in boxes holding a bushel, which are stored on board ship in cool chambers. The fruits are merely wrapped in tissue [paper] and placed in the boxes.

Under this system, apples have for the most part come very successfully; but pears have been less satisfactory. Occasionally there have been pears from the Antipodes that have reached this country in a sound condition, but numerous consignments have

proved to be of little value, and the commission agent is never able to speak of such fruits or to gauge their value until they have been unpacked. The freight per bushel, from Victoria to London, for apples or pears so packed and stored on board ship in cool chambers, is 3s. 9d.

Instead of packing the apples wrapped in tissue only, in the case of several bushels that have recently arrived in London by the S. S. Wakood, a quantity of asbestos, or a preparation of this substance, has been used. The fruits were wrapped in tissue as formerly, and afterward embedded in the asbestos, each fruit being perfectly surrounded by this substance. Upon unpacking the case, the asbestos appeared to be

caked, but it was easily broken up, and then appeared almost like flour. We should suppose, therefore, that the fruits would be air-tight under such conditions, and this will account for the fact that as we saw them they were perfectly sound, and in excellent condition, although five months had elapsed since they were packed in the boxes. The apples were gathered and packed previous to May 5 last, but owing to some objection, we believe, on the part of the steamship companies, there was a delay of two months or more before shipment, and even then they travelled by the Cape route. The new system, should it answer to expectations, will possess several

advantages. The fruit may then be stored in the hold of the ship and the freight per bushel case will be 6d. instead of 3s. 9d. ; but as the packing material will displace a quantity of the fruits in each package, it may be well for present purposes to describe the future freight of the fruit as 1s. per bushel.

It must be remembered also that the asbestos is a valuable material in England, and it will be sold to as much advantage as will the apples. The result will be that the asbestos and fruit will be brought to England for less money than is now paid for the fruits alone.—*Gardeners' Chronicle*.

A BAD INSECT PEST.

One of the worst pests that the apple grower has to fight is the railroad worm, called also the pulp worm, and the apple maggot. The fruit growers of Vermont are unanimous in giving this insect the first rank among their insect enemies.

It is worse even than the tent caterpillar. That can be entirely overcome by spraying, whereas spraying has no effect on the railroad worm.

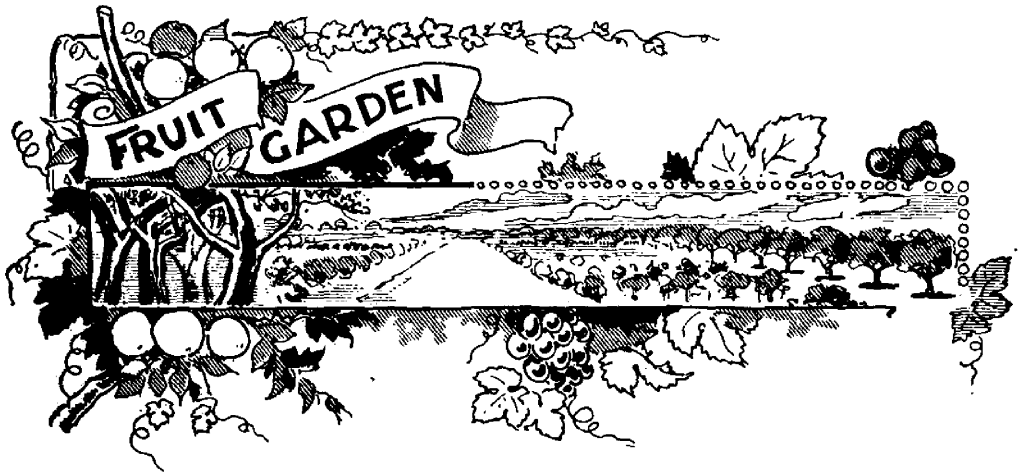
The railroad worm, or apple maggot, is the cause of the pulpy, punky condition of the apples as we find them now in the stored fruit and in that offered for sale. The eggs are laid just under the skin of the apple by a small fly. This fly begins her work in June and keeps it up pretty much all summer, so that there may be worms of all ages in the apples. She has a strong preference for sweet apples, and has practically ruined the

crop of Talmans this year. Still she works in all varieties, sour as well as sweet, and causes hundreds of dollars' loss to the fruit grower.

We have consulted the authorities at the Vermont experiment station, and they frankly admit that no satisfactory way of dealing with it has been discovered. They say that considerable good can be accomplished by keeping hogs or sheep in the orchard to pick up the windfalls. These windfalls are usually full of apple maggots, and the hogs digest them out of existence.

Experiments are being made at various places in the United States, and we hope eventually to know some more effective way of dealing with this pest. But for the present we must rely on the practice of destroying the windfalls.





FRUIT CULTURE—VIII.

THE CURRANT.

THE fact that the currant is not only one of the most healthful of fruits, but also one of the hardiest and most productive, should ensure it a prominent place in every farmer's garden. Unfortunately this very fact causes it to be too often badly neglected. The average currant bush grows at its own sweet will, and the owner has little conception what an immense difference in the size and quality of the fruit would be made by thorough cultivation. The currant will thrive well in any well drained soil, coolness and moisture being necessary for the production of the best fruit. If the soil is too light and hot, the fruit will usually shrivel before maturing, and in such soil a mulch of some sort for two or three feet around the bushes is advisable. Good, strong one-year old plants will be as good as older ones, and cost less. Anyone, however, can grow his own plants by taking cuttings in the fall from the well-ripened wood of the past season's growth. Make the cuttings from six to ten inches long, plant in September in a row, rubbing off the lower buds when planted, and cover

when freezing weather approaches with straw or coarse manure, or the cuttings may be tied in a bunch and buried with about two inches of soil over them, and covered for the winter by coarse manure and then planted early in spring. By next fall they should make good, strong roots.

(Fig. 83 and Fig. 84.) As the currant is a rank feeder, a liberal application of manures should be given; it fact no fruit will respond so quickly to generous treatment in this respect. Thorough and systematic pruning is necessary with the currant as with the gooseberry. This may be done very early in spring before the buds unfold. The fruit is borne on the previous year's shoots as well as on the older growths, but as a rule the younger the wood the finer the fruit. The superfluous young shoots should be cut out, and also all wood over three years old. There must be a constant renewal of strong, healthy wood, if good fruit

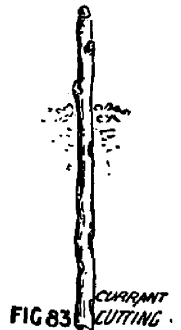


FIG 83. CURRANT CUTTING.

is to be grown. The old practice of growing in tree form is now discarded. Four or five main stems are best, and renew these from time to time by judicious pruning. If the young wood has made such rank growth as to make the bush straggly the ones that are left may be shortened back to advantage. Bushes treated in the way suggested will last for a good many years,

but it is well to replant when over ten years old. Where it is desirable to rejuvenate old bushes, they may be cut off close to the ground, and, with well-rotted manure forked in around them, a vigorous top will soon be formed. The cultivation of the currant should be constant and shallow, as the roots run near the surface. From five to six feet apart is as close as the bushes should be planted. The insects chiefly troublesome to the currant are the familiar currant worm which is the larva of a saw-fly; the currant louse and the currant borer. The currant worm is controlled with great ease if the work is done directly the worms hatch. For these and the currant louse see F. Institute Report '96-'97, pages 175 and 192. The borer is the larva of a wasp-like moth, the eggs are laid on the stem from late in May till June. The borer cuts the pith up and down in the stem, and emerges as a moth again that May. Cut out and burn all infected stems in the early spring.

VARIETIES.—Of the red varieties the *Cherry* and *Fay's Prolific* are probably the two best, in white the *White Grape*, and in black, the old *Black Naples*.

THE GOOSEBERRY.

The gooseberry is essentially a northern plant, and makes much the same demands

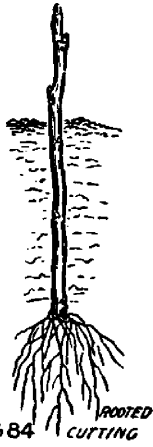


FIG 84

on the soil as the currant does. It will be found most successful in a rich and strong clay loam, and will thrive, like the currant, in partial shade, providing that it gets the necessary manure. Well-rotted cow manure is probably the best fertilizer for the gooseberry, supplemented with a dressing of hardwood ashes or muriate of potash when fruiting time arrives. Generous treatment in this respect must be given to get fine fruit, as, like its relative, the currant, the gooseberry is a gross feeder. Propagation by cuttings is less successful than with the currant, but those who wish to grow their own plants can easily do so by the simple process of "layering." If a large number of plants are required the old bushes should be cut back almost to the

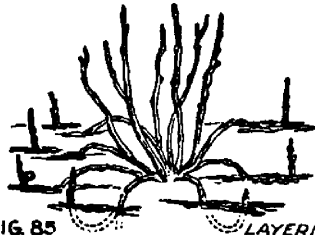


FIG 85

ground in the autumn. About July 1st, when the bush has thrown up a large top of vigorous young shoots, earth is mounded up round the bush, leaving only a few inches of the tips exposed. In the fall the majority of the new shoots will have rooted and may be removed and planted. If only a few plants are required a few of the lower shoots may be bent down about July 1st and covered with earth except the tips. Or the suckers which spring up round the bush may be transplanted. Thorough pruning is emphatically essential to success in gooseberry culture. Fruit is produced from all parts of the bush except very old wood and the new growths. But with a vigorous growing bush from a third to one-half the wood should be annually cut away. The best fruit is borne on one year old wood,



and the aim should be to continually remove the older wood, and have a sufficient number of these strong healthy one year old shoots. It may be said of the gooseberry, as it may be of the grape vine, that the special method of pruning is of less importance than the fact that pruning must be regular and vigorous. Whether the bush system or tree system is followed, training to spurs or to long shoots, the important thing is that there should always be left a good supply of bearing wood, but not a tangled-up affair with a network of wood that can only produce a small and inferior class of fruit. The distance of planting should be the same as that of currants, and the cultivation thorough and shallow. Mulching will undoubtedly pay in hot seasons. Unless the owner is prepared to give great care to his plants he had better confine himself to the American varieties, as the larger Eu-

ropean kinds are particularly subject to mildew.

VARIETIES. — *Downing*, a vigorous and productive variety, bears fruit of a whitish-green color, smooth skin and good quality. *Pearl* is very similar. *Houghton*, a slender grower with red fruit, somewhat smaller than the other varieties named. Of the European gooseberries, *Industry*, a large dark red, and *Whitesmith*, a large yellowish-green, are recommended. A large number of remedies have been suggested for mildew of the gooseberry, but by far the best is the application of potassium sulphide (liver of sulphur), at the rate of one ounce to two gallons of water. This should be applied directly the buds swell, and at least twice more at intervals of a week or ten days. The currant-worm, which attacks the gooseberry with equal readiness, is referred to in the chapter dealing with currants.

RED RASPBERRIES AND BLACK CAPS.

These valuable fruits are so common throughout Ontario that little need be said as to their great value. In the canned state for winter use there is no fruit which retains so delightfully the freshness and aroma of the ripe fruit as the red raspberry. It is a veritable whiff of summer which follows the opening of a jar of "*Cuthberts*" in mid-winter. There are three types of the red raspberry now in general cultivation, those from the European wild raspberry, such as *Antwerp* and *Franconia*, those developed from the American wild raspberry, such as *Cuthbert*, and the hybrids, such as *Shaffer*. The European varieties are less hardy and more likely to suffer from the hot sun in this country. Many of the hybrids are marvellously productive and vigorous, but the fruit is usually soft and the color unattractive. The raspberry is a biennial as far as the cane is concerned, fruit being produced on the cane which was grown the

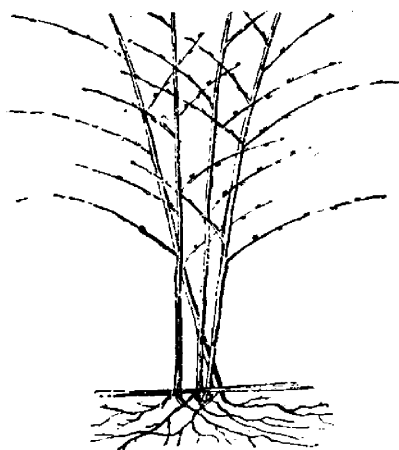
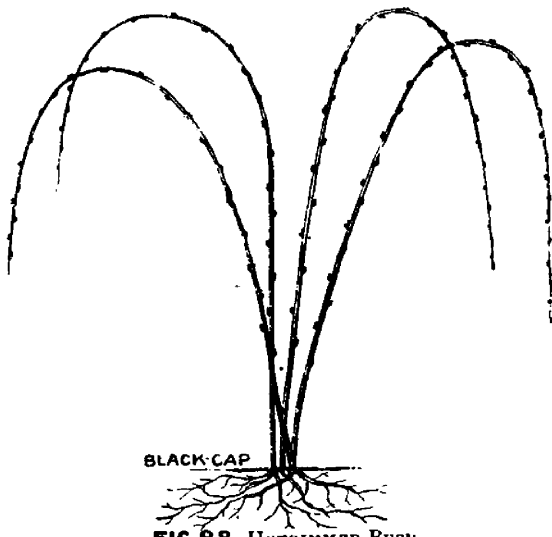


FIG. 87 TRIMMED BUSH.

previous year. In other respects the plant is a perennial, and with good care a plantation will last profitably ten or twelve years. A deep rich and moist sand is the most suitable soil for the red raspberry. The black-cap will thrive equally well on a fairly heavy clay loam, but in any case the soil must be well underdrained and the reverse of compact, for, of all fruits, the raspberry is the first to suffer from an excess of moisture and from drought at the ripening period. Vigorous shoots of the previous year's growth are the best plants to set, and in all cases they should be cut back to eight inches high after planting. In June the young shoots may be transplanted, if the work is done carefully in damp weather, but the older plants are preferable. If cultivation in rows is desired the plants should be set three feet apart and the rows six feet apart. The red raspberry, however, throws up such a large number of suckers, most of which have to be cut away, that a good practice is to plant five feet apart, and cultivate both ways. In this way, not only are the superfluous canes kept down more easily, but a finer quality of fruit, and just as much, will be produced. If fall planting is done the plants should be set out by the middle of Septem-

ber, and well mulched on the approach of winter. The question of pruning is an important one with the raspberries, and one on which a great difference of opinion exists. Great stress used to be laid on the value of summer pruning, and for the black-cap it is all right. The black-cap propagates itself by rooting at the tip, and its efforts are bent in the direction of making strong canes. Pinching back the young canes, therefore, when about two feet high will have excellent results. The cane will soon throw out a number of laterals, and a self-supporting strongly-branched bush will result (see Figs. 87 and 88). With the red raspberry the case is different, the pinching back of the young canes induces the plant to produce more suckers, and the laterals, which are eventually thrown out, are often weak and get killed back during the winter. Cultivate shallow and often during the summer, letting the canes grow their full length. In the late fall cut out the old canes which have fruited, and in the spring remove superfluous canes, leaving only four or five in a hill, and cut back the remaining canes to a height of about three feet. The work of



BLACK-CAP

FIG. 88 UNTRIMMED BUSH.

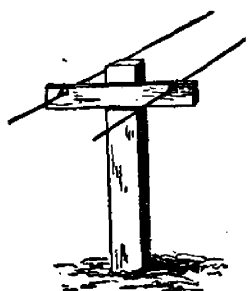


FIG. 89
Trellis for berries.

removing dead, and even superfluous, canes is usually done with more convenience in the fall, and there is practically nothing in the idea that by leaving them additional protection is afforded to the plantation. In districts where the cold is so severe that the raspberry will not stand without winter protection, the pinching back of the young shoots when not more than eighteen inches high may be practised. A low bush will be formed which will be covered with the snow.

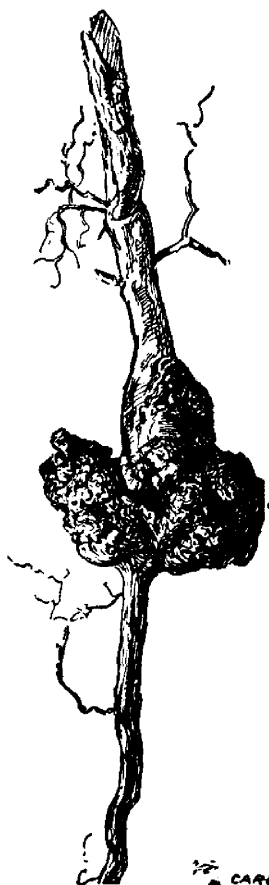
Or bending down and covering may be done. Before frost comes remove the canes as suggested above, leaving about four canes to the hill. One man with spade or shovel then removes a little earth from the base of the plant, the other presses down the canes

with a fork, and the first man puts earth enough on to hold them in place. Such canes must be carefully taken up in the spring when danger of frost is past, but not left long enough to start growth. If such a practice is adopted it will be necessary to put up wire trellis to support the canes. A convenient kind in which the wires are easily removed is shown in Fig. 89.

If covering is not practised where the winter is severe, but reliance placed on a deep covering of snow, it is important to pinch back the canes early. Figs. 90 and 91 will show how to get a short sturdy bush with good laterals.

VARIETIES.—Black—*Souhegan*, *Hillborn Gregg*. Very promising new kinds are, *Older*, *Conrath*, *Smith's Giant*. Red—*Marlboro'*, *Cuthbert*. Yellow—*Golden Queen*. The best purple variety—*Shaffer* and *Columbia*.

INSECTS.—The raspberries are fairly free from insect pests of a very destructive character. The snowy tree-cricket occasionally slits the canes, depositing in the pith a number of yellowish, cylindrical eggs. Such canes can be removed and burnt. The young crickets feed on plant lice, so they probably do as much good as harm. The crown-borer and cane borer are sometimes injurious, but infected canes can be readily



Root-gall of raspberry.

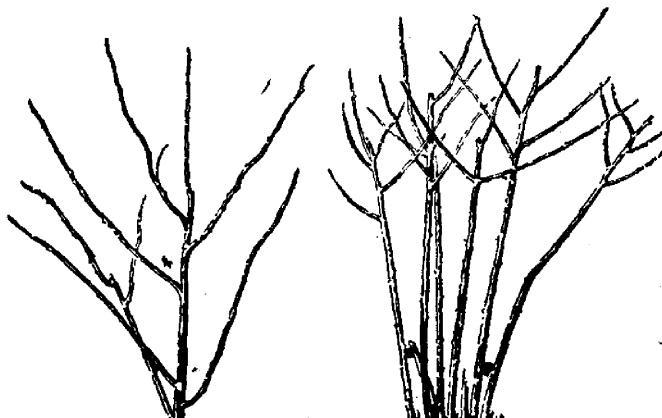


FIG. 90. Well pruned.

FIG. 91. Poorly pruned.

seen and should be removed and burnt. The small green larvæ of the raspberry saw-fly are frequently injurious to the foliage. These can be destroyed by an application of hellebore, one ounce to three gallons, or with Paris green. Of diseases, the two worst are *anthracnose* and *root or crown gall*. The former, a fungus disease, attacks all parts of the plant above ground, showing on the young canes in grey blotches and discolorations, leading to weakness of the cane, which sometimes dies before fruiting, or on which the fruit is poor and shrivelled. Bordeaux mixture will assist in checking this disease, but it is well in small plantations to at once root out and destroy all sickly canes.

The cause of root or crown galls is very obscure, and one can only advise the rejection and burning of all plants so affected at planting time.

THE BLACKBERRY.

Much of what has been said as to necessary conditions in successful raspberry culture is equally true in its application to the culture of blackberries. The hardy, vigorous nature of the plant enables it to survive under very unfavorable conditions, and for this reason sufficient attention is not always given to its real needs. It will thrive on a heavier soil than the raspberry, but moisture is essential, and if the soil is not deep and porous it will be necessary to make it so by underdraining. Ripening late in the season, drouth is usually its worst enemy, and must be fought by proper drainage and cultivation if the magnificent possibilities of this fruit are to be realized. The blackberry, especially when in full bearing, will amply repay liberal treatment in the matter of manure. Propagation is by means of suckers. Planting may be done in the fall if a thorough covering is put on the newly set plants for the winter. In the spring planting, the last year's growths should be dug



FIG 91 A THOMAS

FIG 92 THOMAS

and planted as early as possible, so as to give every chance for the production of good canes in the second year. Some of the most successful growers practice the hill method of culture, planting some seven feet each way. When in rows, eight feet between the rows and three feet between the plants is advisable. For the first two years, hoe crops may be put between the rows. As the rows fill out, and a larger number of suckers are produced, it will pay to reduce the numbers through the growing season by cultivation and hoeing. From the grower's point of view a superabundance of suckers may be regarded simply as weeds, robbing the plants of both moisture and food. In gardens, and where the ground is likely to become very dry or hard towards fruiting time, a pretty heavy mulching will yield excellent results. Summer pruning is absolutely necessary if a strong compact hedge is to be formed. The young plants should be pinched back when from two to three feet high; the cane will produce a number of vigorous laterals, which should be pruned back the following spring to about eighteen inches in length. Stress must be laid on the necessity for this early pinching back. Fig. 96-91 in the chapter on the raspberry shows the difference between the early and the late pinching back process. A top-heavy, awkward lot of canes will be the result of deferring this work, to say nothing of an undue amount of broken canes, scratched hands and torn dresses. Fig. 91A shows the neat, compact and properly pruned bush, and Fig. 92 a neglected cane.



It will be necessary to have a wire trellis where laying down canes for winter is practised; two wires are sufficient, even one will often answer the purpose, and in fact under most conditions the support of a wire will do much to keep the row in good shape.

Fig. 93 is an illustration of a well-kept plantation with the trellis support. The operation of laying down for winter was described under the raspberry. The varieties chiefly grown are *Snyder*, *Kittatinny*, *Lawton*, *Taylor* and *Early Harvest*. Of these *Kittatinny* is the best quality, fairly hardy and productive, though rather subject to "red rust." *Agawan* and *Snyder* are both

hardy and productive, though not very high in quality.

The only disease which very seriously or widely interferes with blackberry is the red orange "rust." This fungus spreads with great rapidity, and although systematic spraying with Bordeaux mixture may check it to a certain extent, the infested canes should be cut and burnt immediately they are noticed; a careful watch should be kept for the first sign of trouble, and only perfectly healthy plants set in. The diseased plants are easily distinguished by the peculiar golden color of the leaves in early spring, and the subsequent covering of the leaf with a mass of orange-colored spores.



FIG 94

Snyd.-r.



FIG 95 THOMAS

Kittatinny.

PRUNING.

GRAPES.



ALTHOUGH out of the order of ripening its fruit, the grape is taken for the purpose of bringing out some of the mooted questions now engaging the attention of fruit growers as to pruning for inducing increased weight and fruitfulness.

In September, 1882, several members of the N. J. State Horticultural Society spent three days visiting the noted vineyards on both sides of the Hudson in and near Poughkeepsie. During this visit a call was made on Charles Downing, and the pruning of the grape as to the length of cane to be left in certain varieties of grapes found to be defective in setting of fruit on the bunch came up. Mr. Downing stated that in pruning the Diana the best bunches were produced on short spurs on a main cane at least 50 feet in length. Several other experienced growers stated that many of the Rogers' Hybrids, such as Salem, could not be successfully grown on main cane less than 20 feet in length. The pruning of the Eumelan also came in review. The Delaware was found to be pruned to long spurs or canes of from 20 to 25 eyes, as the best bunches were grown at or near the remote end of the cane. During this visit the experience of a few growers seemed to point to the fact that the time of the year when the pruning was done might influence the potency of vine in the production of size and weight of bunches as well as the position of fruiting eyes on the new growth of cane. Late pruning was thought to favor these characteristics.

The next step was that as the fruiting eye of the grape is a compound one, or as it has a small supplemental fruit eye by the side of the large ones, certain varieties, notably

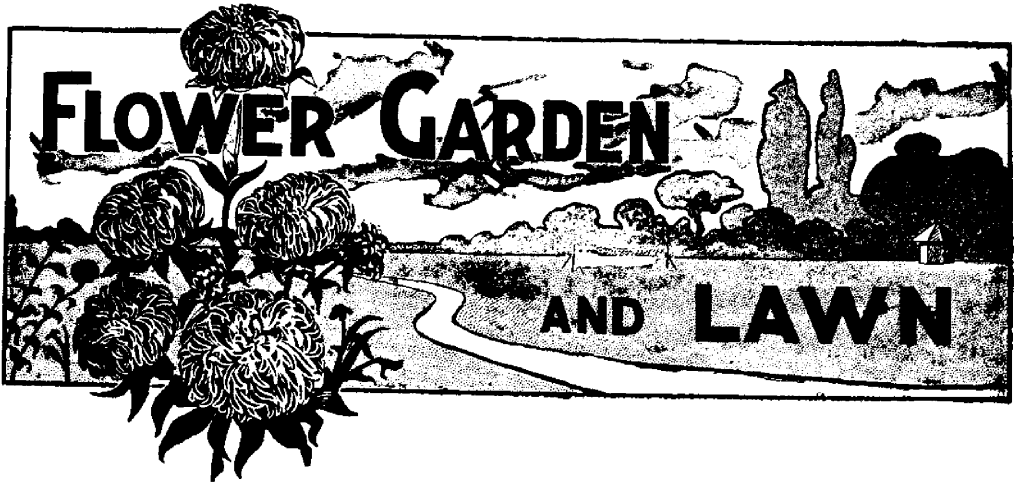
the Niagara, produced the best and largest bunches on the cane from the secondary or supplementary eye, starting out after the first shoot had made some growth.

To-day the planting of mixed varieties near each other, or the pollenization of one variety by another is a great factor in the size, weight and setting of the fruit on the bunch. Some most successful cultivators of the grape follow the close or short spur system on a comparatively short cane, but place great reliance on pollenization by other varieties.

To be a successful pruner requires that the person performing it should understand the distinction between fruit and wood-buds, as the pruning instrument must have an educated mind to govern what it does.

PLUMS.

The advent of the Japan plum in its abundant and early fruiting has modified to a great extent the pruning of this fruit. The cutting must be severe, and a modification of pruning and of thinning of the fruit must be practised. It may safely be laid down as a rule in fruit growing that pruning the growing fruit by thinning must be followed, if large, handsome, good flavored and fruit free from rot is desired. It is claimed that late pruning of the plum after the fruit is set tends to the formation of a much larger number of fruit buds for the next year's crop, and the Massachusetts Experiment Station is now carrying on a series of experiments along this line. The best plum growers in the State of New Jersey follow cutting away at least one-half of the last year's growth at each pruning and severely thin the fruit remaining on the tree.—*American Gardening.*



TIMELY TOPICS FOR THE AMATEUR—VIII.

THE shortening hours of sunlight and the gradual, but surely lessening power and genial warmth of the autumn sun will cause the enthusiastic plant-lover to watch with mingled feelings of regret and sorrow the fast fading freshness and beauty of many summer favorites of the garden.

Autumn frosts may, however, be lenient in their usually destructive visitations and allow a few stray blossoms or bright leaves to lend their more than welcome appearance to aid in brightening up the lawn and garden during the chilly days of autumn. The pleasure that these bright and cheerful reminders of past summer-tide beauty bring with them may be considerably enhanced and prolonged, perhaps until early winter, if due care and attention is still devoted to autumn work in the garden.

The grass and walks should be kept trim and neat, all weeds, decayed foliage and blossom removed regularly and often, so that the cheerful and bright appearance of lawn and garden may harmonize and be somewhat in keeping with the glowing beauty and brilliancy of autumn foliage on surrounding tree and shrub. The removal of all dead and decayed foliage will not only

add greatly to the pleasant and cheerful appearance of lawn and garden, but will also materially assist those plants that are still struggling to maintain their bright summer-like aspect, despite the fast decreasing brightness and warmth of the haze-dimmed autumn sun.

The peaceful quiet days of October, when all nature seems to be in a restful mood—preparatory to the more turbulent and trying winter season—is a suitable time for the horticulturist to look back and take note of success or of non-success in matters pertaining to the garden that have occurred during the past summer season. This can be more easily done now, while there is still sufficient evidence of success or failure visible, than later, when all vestige of summer blossom or foliage is either blackened by winter frosts or buried beneath nature's protecting blanket of winter snow.

Many ideas of changes and improvements will doubtless suggest themselves to the observant and reflective plant-lover, many of which perhaps can be carried into effect much better during autumn and early winter than if left until the hurry and rush of spring work commences. All alterations in walks, flower beds or borders, or the



FIG. 1925. VASE OF HERBACEOUS PEONIES.
(Reduced.)

making of new ones, is best done at this season of the year, as the ground has time to settle firmly, ready for any planting required to be done in spring. Many of the hardier class of trees and shrubs can also be planted to advantage during the autumn season, if the ground is in suitable condition. Lilacs, and the hardier varieties of Spireas, such as *S. prunifolia*, *S. Van Houtii*, etc., *Diervillas*, *Philadelphus* (mock orange), *viburnums*, *Kerria*, *berberis*, *cydonia* (Japan quince), amongst others, can be safely planted during early autumn. In the colder and more northern sections of the country, spring planting is probably

advisable. A heavy mulch of long strawy manure should be applied to all newly planted deciduous trees, etc., early in the winter, but not until after the late autumn rains are over. The greater part of this mulch should be removed in early spring as soon as the frost is out of the ground. Tender varieties of spireas, deutzias, tamarisk, forsythias, herbaceous and shrubby hibiscus, etc., succeed best if planted in spring. Herbaceous perennials, with a few exceptions, succeed best if transplanted in spring, just as the new spring growth commences. Pæonies, German iris, dicentra (bleeding heart) and varieties of *hemerocallis* (day lilies) can be planted early in the fall if desired. These also will benefit if mulched during the winter with long manure, leaves, or any similar material.

It is always advisable, before removing or destroying any tree, shrub, or plant—or any prominent feature—from lawn or garden, to consider well what effect the removal will have on the surrounding landscape. By the removal of some tree or shrub that may have been thought ineffective, either from a picturesque or useful point of view, it often happens that some other object even more objectionable than the one removed may be exposed to view. In fact, in all matters pertaining to landscape gardening, whether on a large or small scale, always endeavor to see as clearly as possible the full and complete effect of contemplated alterations, or expected improvements, before commencing to carry them into operation. Regrets are useless after the axe or spade have completed their work of destruction, and will not remedy the mischief wrought or replace the object removed. Elaborate and well thought out plans of every minute detail regarding the utility and appearance of houses or buildings are considered absolutely necessary before commencing to

erect them, and even where almost immediate effect and results are to be attained, or alterations effected with comparative ease, the surrounding grounds are oftentimes laid out and planted in an haphazard, hit-or-miss kind of style, with perhaps very little regard for present effect, and even less thought and study given to the ultimate requirements and appearance of trees and shrubs that will take years perhaps to develop their suitability for the position they are to occupy. In carrying out alterations or improvements, even when the lawn or garden is quite limited in extent, ample scope will be found for an amount of study and thought, as well as a display of artistic taste oftentimes considered altogether unnecessary until ineffective and perhaps disastrous results prove conclusively the necessity for the exercise of care and discretion in these important matters.

Another important and often neglected point necessary to be successful with trees and shrubs is the matter of drainage. Many of the choicest and most beautiful of these, as well as many choice varieties of herbaceous and other flowering plants, have been discarded and rejected in many localities, because of their apparent want of hardiness, when the real cause of failure has been the want of proper drainage. It is a useless expenditure of time and money to plant expensive trees and plants on ground that is soured and soddened with stagnant surface water, or with cold water that soaks down in early spring, perhaps from higher ground in the neighborhood. This soakage or surface spring water can only be got rid of by sub-soil or under draining the ground, an expensive and laborious operation, but one that will repay its cost in a short time, if the work is thoroughly and efficiently carried out. Autumn and the early winter is the best time for digging and constructing drains, as it gives time for the soil to settle down somewhat during the winter.

The location for drains is best selected and marked out in early spring.

In small plots of garden, where perhaps a proper system of drainage cannot be carried out and the ground is wet, loose stones or coarse rubble can be used to advantage for temporary or makeshift drainage purposes. Dig out the soil first about 2 or 3 feet deep where a flower bed or border is to be made, or a tree or shrub planted, fill in about 10 or 12 inches of good sized stones or coarse gravel and rubble, over this place a thin layer of fine brushwood or coarse weeds and fill up the excavation with good soil as required. This method is often very beneficial to newly planted trees, etc., for a short time, but a properly constructed stone or tile drain will be found more effective and cheaper in the end than any temporary or makeshift system of drainage.

THE GREENHOUSE.

All greenhouse plants, except a few hardy and half hardy plants, should now be safe in their winter quarters in the conservatory or greenhouse. Hybrid perpetual roses in pots, required for winter forcing, succeed best if allowed to stay outside during a few sharp frosts. Six or eight degrees of frost for a few nights will help to ripen the wood, and this ripening process is a very desirable point to secure with H. P. roses and all hardy plants required for forcing in winter. Before taking the roses into the greenhouse prune them back rather severely, leaving only about an inch or two of the past year's growth. In about a week, or perhaps longer, the buds will show signs of growth. The plants should then be repotted, shaking carefully out about half of the old soil. Repot them firmly into well enriched, clay loam potting soil, water them thoroughly once and then withhold water at the roots until the soil shows signs of dryness. Syringe the

growth of the plants daily. Hybrid tea roses required for forcing can be treated in a similar way, with the exception that the ripening process must not be too severe, as hybrid teas are more tender than H. P. varieties.

Plants of *Hydrangea otaksa* and similar varieties of these useful half-hardy plants will require the protection of a shed or out-house for a few weeks before severe frosts, previous to being placed in their winter quarters in the basement or cellar, or under the greenhouse benches. The pretty little



FIG. 1926. SHRUBBY HIBISCUS. *H. ALBA PLENA.*

Rose of Sharon.

On Lawn of W. H. Gillard, Esq., "Undercliff," Hamilton.
Sept. 10, 1900.

free flowering hardy shrub, *Deutzia gracilis*, succeeds splendidly in the greenhouse in winter. Plants of this dwarf growing *Deutzia* can be taken up from the open ground, potted into ordinary potting soil, and in February or March will develop a wealth of their snow-white blossoms, with very little care and attention. Fancy caladiums, Tuberous begonias and gloxinia bulbs can be dried off gradually and placed away in their winter quarters. The caladium bulbs will probably winter best if left undisturbed in the pots, and the pots can be laid on their sides under the greenhouse

bench, not too near the hot water or steam pipes, however, to dry them out too severely. Rats and mice must be guarded against, as these unwelcome visitors are very partial to a banquet of high-priced caladium bulbs. Tuberous begonia or gloxinia bulbs can either be left in the pots and stowed away in a dry place in a temperature about 45°, or the bulbs and tubers can be shaken out from the pots, after all growth has ceased, packed away in sand or dry soil in boxes, and placed in any fairly dry, cool place, free from frost. A temperature of 45° to 50° will suit them very well.

If seedling cinerarias, calceolarias, or plants of pelargoniums, are still out in cold frames, careful watch must be kept on them, for, although these plants like a cool temperature, a very slight freezing injures them permanently. Violets that have been kept outside should be brought into the greenhouse if required for early flowering purposes, or they may be left out until later, or even until spring, if a sash is placed over them, and a little care and attention given them during the winter. Roses planted out on benches should be allowed to produce their flowers now as freely as possible. The disbudding of chrysanthemums, as mentioned in September number of Journal, will have to be attended to as required.

If mildew appears on roses or chrysanthemums, paint the steam or hot water pipes with a thick paste of flour of sulphur well mixed with water. Apply this mixture to the pipes, and on a chilly night, when a little extra heat will not hurt the plants, get up a good circulation of heat in the pipes sufficient to raise a strong sulphury smell through the greenhouse. If this extra heating process is repeated about once a week until more severe weather, it will effectually prevent the spread of this dreaded fungous disease. Sulphur must

never, however, be put on brick flues, or on stove or furnace pipes in the greenhouse, or anywhere so that it comes in contact with direct fire heat, as the fumes of burnt sulphur, even if very slight, will soon destroy a whole collection of plants. Flour of sulphur can be sifted finely on the foliage of plants affected with mildew, to advantage.

Purchase Dutch and other winter and spring flowering bulbs as early as you can. Select firm, clear looking bulbs of good medium size, in preference to large bulbs that are not firm and solid. Pot the bulbs into ordinary potting soil; the top of the bulb should be just below the surface of the soil when potted. Water thoroughly once so as to moisten all the soil well and place the pots in a cool dark shed or cellar for a few weeks until the bulbs have made good roots, when the pots can be brought into the greenhouse as required. For bulbs required for forcing, a frame placed outside is a very good place to start root action. Pots should be covered about an inch deep in light soil or coal ashes and protected from severe frosts. A covering of sand or ashes will also benefit those started in a shed or cellar, as it prevents drying out. (For culture of bulbs see November number of *Horticulturist*, 1899.)

Early in the day is the best time for watering and syringing plants at this season of the year. A little fire heat will be beneficial in damp, chilly weather, even if there is no frost. Coleus, foliage begonias and similar plants often suffer from damping off, if the temperature is allowed to drop too low continuously. A temperature of 50° to 55° at night, and 60° to 75° in the daytime will suit a general collection of plants very well. Avoid extremes, either of heat or moisture. Close the ventilators early in the afternoon and avoid cold draughts on the plants. Keep the floors well dampened, it will obviate the necessity

of syringing so often, a process that is sometimes risky at this season when perhaps there is no fire heat and the weather damp and chilly. If you have no objection to the smell of raw tobacco, sprinkle some stems in places under the benches and renew the supply every week or two; this will keep down green fly or aphis. Fumigating with damp tobacco stems is the most effectual method of getting rid of these pests, but unless carefully done, so as not to allow the stems to burst into a flame, there is risk of burning or scorching the foliage of tender plants. Coleus, heliotrope, and Maiden Hair ferns are very easily injured in this way. The concentrated liquid "nicotine" sold by seedsmen, is perhaps the best preparation of the kind for amateurs. It is cleaner to use, the fumes from it being less pungent and disagreeable than from raw tobacco.

Sufficient potting soil, sand and leaf soil, should be brought into the potting shed or cellar, so as to be in good condition for use during the winter. Secure a fresh supply of sod for potting soil for use next season. Sod should be cut three or four inches thick, taken from where the soil is loamy, and stacked up neatly. Two thicknesses of sod and one of well rotted stable, or cow manure, is the best nucleus for a potting compost obtainable. The layers of sod and manure, as mentioned, can be continued until a sufficient quantity has been secured. The sod should be stacked with the grassy side downward.

WINDOW PLANTS.—The window should be well furnished now with plants for autumn and winter effect. If a few geraniums have been grown on specially for winter flowering, and not allowed to flower during the summer, the window will look bright and gay with their showy trusses of bloom until the early winter flowering bulbs and other plants commence to flower. Roman hyacinths will be the

first of the winter flowering bulbs to claim a position in the window, followed later by varieties of narcissus, or a pot or two of the pink or blue varieties of the Roman hyacinths, as well as some of the later flowering Dutch hyacinths. The Von Sion narcissus (daffodil) is perhaps the easiest grown and most remunerative of the Narcissi family. The trumpet daffodils are also useful and pretty if a variety is required. Dutch hyacinths and some of the Polyanthus narcissus, such as Double Roman, Grand Monarque and Staten Island, succeed well in the window, not forgetting a few bulbs of the Narcissus Poeticus, or the improved variety Ornatus. The last two varieties I consider to be the gems of the Narcissi family. A nice pot of them when in flower has a strikingly beautiful effect in a window of mixed plants. A few jonquils and perhaps a few bulbs of the pretty blue flowering Scilla Siberica—the "Forget-me-not" amongst bulbs—will complete a useful list that will give a succession of flower from early winter until spring. These, with the more permanent occupants of the window, such as geraniums, cacti, begonias, etc., and perhaps a hanging basket, or a few hanging or bracket pots filled with some trailing plants that have occupied the window box, or perhaps a rustic stand outside during summer, will make a gay and attractive window during winter. Watch closely for the first signs of insect pests, especially red spider and green fly. Apply tobacco water for the last named pest, and syringe the plants infested with red spider as often as possible with clear water. Red spider cannot thrive if drenched with water occasionally.

FLOWER GARDEN.—Dutch and spring flowering bulbs should be planted before the end of October. No mulching is required for these until November, or perhaps later, according to the severity of the weather.

It often happens that the first frosts of autumn barely nips the foliage of dahlias, cannas, gladioli, or even the more tender *Caladium esculentum*, not sufficient to warrant the plant lover in rooting them up, whilst the second visitation of frost is sometimes severe enough to freeze unprotected roots and bulbs of these plants in the ground. It is a good plan to place a mulch of some kind around the roots of these and similar plants to ward off this second attack of frost, so that the tubers and bulbs may not be damaged. By doing this it will give them time to mature and ripen in a more natural way than if taken from the ground immediately after the first frost. They must not, however, be risked too long in the open ground, but must be dug up and removed to a shed, or out-building, where they will be safe from frost, and allowed to dry before being stowed away for the winter.

All flower beds or borders, as soon as vacant, should be given a coating of short manure and the ground dug up deeply, the surface being left as rough as possible. If the ground is of a stiff, clayey nature, throw it into ridges for the frosts of winter to pulverize and sweeten. Make the ridges so that the furrows between them will drain off all surface water quickly. By ridging up ground in the fall much time and labor can be saved in the spring, and better results attained the following season.

FRUIT AND VEGETABLE GARDEN.—Picking and storing fruit will be the principal operation in the fruit garden during October. Many of the early varieties of pears and apples will already have been picked and stowed away. Almost all varieties of pears are better picked before they are ripe, and ripen best packed and covered up closely in boxes and stored in a warm shed or out-building. If placed in the cellar to ripen the flavor and color of the fruit is greatly impaired, and if laid out on shelves or benches exposed to the air the fruit often

shrivels up badly before ripening. Late pears, such as Winter Nelis, Easter Beurre, and Josephine d'Malines, will be best left hanging on the trees until there is danger from frosts. Apples will keep best if left in open barrels or laid carefully in heaps in a shed or out-building. They can be kept in this way for a week or two, when it is best to cover them up to prevent over drying or perhaps shrivelling. Apples should not be put into the cellar until severe frosts necessitate their removal to safer quarters than a shed or out-building provides for. Old canes of raspberries and young useless growth should be cut out. If these are laid by they will come in useful to place on winter spinach beds later in the season. Fine brush wood is a great protection to spinach in winter. Manure, and fork lightly over, the ground amongst small fruit trees and bushes. A mulch of long manure afterwards will benefit them considerably.

Storing for winter will have to be attended to in the vegetable garden. Roots of all kinds can be pulled and covered up in temporary pits in the garden for a week or two. This will allow the roots to dry before being taken into the cellar. They will keep much better if treated in this way than if pulled and placed in the cellar or root house direct from the garden. Store them if possible on a nice day, so as to ensure their being placed in the cellar quite dry. Roots keep best during the winter covered with dry earth or sand, unless the cellar is very damp and close. A few artichokes, salsify and parsnips may be left

in the ground all the winter. They will eat much nicer in the spring than those stored in the cellar. Celery will require to be moulded or earthed up, or protected in some temporary way from severe frosts, until later, when it can be placed in earth or sand in the cellar. A narrow trench dug out in a high and dry part of the garden, where the surface water will not get into it, will keep celery splendidly during the winter. The trench should be only the width of a spade, and deep enough so that the tops of the celery are just below the ridge of earth thrown out. Place the celery carefully in the trench in an upright position, use plenty of the earth thrown out around and about the celery, packing it carefully with the hands. Cover a few boards over to keep out the rain. A very slight covering of leaves or long manure placed over these later on will be found sufficient to keep out frost, unless very severe. There is more danger of celery rotting in trenches from being too closely packed than there is from its being frozen. Cabbage and cauliflower are best covered up or pitted out of doors, as they are considered to be a source of danger and disease to the inmates of a dwelling house if kept in the cellar during winter.

Manure and dig up roughly all ground as soon as the crops are taken off. Throwing the ground into ridges about 3 feet apart will be found to be of great benefit to heavy, clayey soils.

HORTUS.

Hamilton.

THE HANRAHAN SYSTEM of cold storage has been adopted by the Minister of Agriculture for Ontario for the forwarding of tender fruits to Great Britain. One car load of early apples and pears left Grimsby for Manchester on the 25th of August, and

several carloads of pears, peaches, tomatoes, etc., followed on the 15th of September. All these consignments go forward to Manchester by the Manchester liners. A cablegram reports that the first car load arrived in perfect condition.

SWORD FERN.

These Ferns are suitable for window culture, doing well in the dry air of the house. Three species are in common cultivation;



Nephrolepis exaltata, *N E Bostoniensis* and *N cordata compacta*. These are the common sword ferns, the Boston fern and the latter, a dwarf variety with upright, narrow leaves, which is much used in fern pans for table decoration. All do well in a compost of loam, leaf mold and sand. They should

never become pot-bound and require an immense amount of water. All are useful for hanging baskets, wire baskets lined with growing moss being

used, filled in with soil in which to set the plants. New shoots start out through the moss and soon the basket is hidden. The common variety has leaves from 2 to 4 feet long, while the Boston fern grows to a much greater length. The plants increase rapidly, the new ones growing from the tendrils which run out from the old root; when they remain on top of the soil they should be layered to hasten growth. Some sorts have tubers which many suppose can be used to propagate new plants, but they are simply feeders or reservoirs of moisture for the use of the plant. My neighbor removed all she saw when repotting a new fern, planning to raise many new plants; she not only failed in her purpose; but killed the old plant. Thrips and scale are the only enemies of these plants and they can be cured by smoking for the former and washing the stems for the latter.—*Park's Floral Magazine*.

HIGH FEEDING FOR PLANTS.

INTERESTING experiments have been carried on in plant feeding by G. M. Sherman, of Hampden Co., Mass. His plan in brief is to supply liquid fertilizers by means of a porous jar buried a foot or more beneath the surface and filled from time to time through a tube projecting above the ground.

The roots of the plant or tree collect around the porous jar and absorb the fertilizers. The illustration shows a small apparatus in operation. Patent has been applied for. Mr. Sherman's experiments have been mostly confined to rose bushes, which in many cases appear to have made enormous growth, shoots extending several inches per day in some cases. The inventor expects the principle to prove of great value in cultivation of all kinds of fruit and shrubs and

will attempt to have the theory thoroughly tested at the state experiment station.

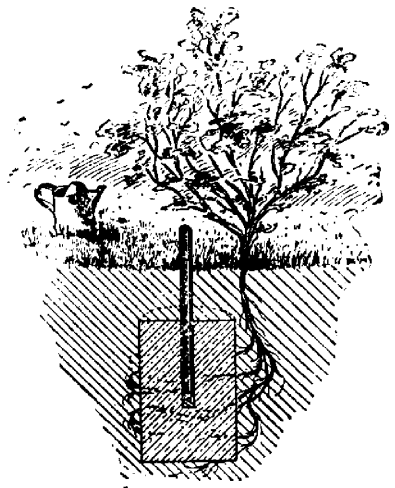


FIG. 1928. APPARATUS TO FORCE RAPID GROWTH.



FIG. 1929.

The above photo shows a Crimson Rambler rose, climbing up the residence of Mr. W. R. Wright, Picton, Ont. The rose was a premium to Mr. Wright from the Picton Horticultural Society several years ago, and has been very much admired, the profusion of bloom being so great, that one could hardly count the endless number of roses.

NARCISSUS.—Of all bulbous plants these are most healthful and varied in form and color. They always bloom if given anything like proper attention. In my window now are three sorts. Paper-white, fresh and dainty, comes first. On the pots I find written "Planted Sept. 27th." Many of them bloomed at Thanksgiving, full and sweet. The hyacinths planted the same day are only little green buds above the soil. Some of

the narcissus clusters have fifteen waxen cups, and each bulb yields two or three clusters. Another narcissus, blooming a little later on is larger and quite as sweet, and pure waxy white. The Chinese lilies put in water on the day the narcissus were planted, are in full bloom for Christmas, a creamy white with a deep, large golden cup, and short, roundish petals.

Planted outside in October the narcissus blooms in early spring, some sorts with the crocus; others with the first rose buds. The bright yellow ones are lovely, there are white double ones that look like Cape jasmines. The varieties are almost countless. —*Park's Floral Guide.*

RUDBECKIA, GOLDEN GLOW.—Talk not to me of the glory of chrysanthemums produced by care, for no golden chrysanthemum was ever more beautiful than the double puffy Golden Glow. The root which was planted last year was given a stake to which the stalks were tied. Lo, along came the west wind and snapped off the stalks and we had no blossoms. The roots were not covered during the winter, one which was so severe that everything was killed but Golden Glow. It sent up dozens of stalks in the spring and made a rapid growth. Today it is eight feet high with one hundred buds and blossoms. We did not stake it this year and the long, wiry stems, crowned with a ball of concentrated essence of sunshine, toss and nod most gracefully. Each flower is borne on a stem by itself which makes it very satisfactory for cutting. The foliage is scant and does not crowd up the flower stem. The buds are not pretty and give no promise of the great beauty of the full blown flower. For a most satisfactory and highly ornamental hardy perennial, one cannot too highly recommend Golden Glow. —*Park's Floral Guide.*



The Canadian Horticulturist

COPY for journal should reach the editor as early in the month as possible, never later than the 15th.

SUBSCRIPTION PRICE, \$1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter or Post-Office Order are at our risk. Receipts will be acknowledged upon the Address Label.

ADVERTISING RATES quoted on application. Circulation, 5,500 copies per month. Copy received up to 20th.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

ILLUSTRATIONS.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, etc.; but he cannot be responsible for loss or injury.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

DISCONTINUANCES.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrearages must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post-Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

NOTES AND COMMENTS.

FRUIT INSPECTION.—In answer to our inquiry, the Minister of Agriculture writes under date of August 20, 1900, that neither the Fruit Inspection Act, nor the Barrel Act, have yet become law.

THE EARLY MICHIGAN PEACH was shipped at Maplehurst August 22nd. It is a very pretty high colored variety, of the early clingstone white flesh class, rather small, and not a good keeper. Firm samples laid up on a shelf for two days began to rot.

ROSS SEEDLING PLUM.—On the 18th of August a box containing about a dozen samples of this plum was sent the writer to Grimsby by Mrs. J. T. Ross, 51 Main street east, Hamilton. The plums were very fine, about equal to the Bradshaw in appearance, of which they are claimed to be a seedling. We know of no plum of that

season to really compete with it, unless it be the Abundance, which is of so different a character that it can hardly be compared. The quality, however, is inferior to that of Bradshaw.

THE STANDARD APPLE BARREL.—The barrel sanctioned last year contained 103 imperial quarts, or 107 quarts. The new standard barrel, asked for by our association, holds 96.51 imperial quarts, dry measure, or 100 quarts. The staves are $1\frac{1}{2}$ inches shorter, which is the principal difference.

SMITH'S SEEDLING PEACH, reported in our report for 1899, p. 50, seems to commend itself more and more. Mr. R. T. Smith brought a basket of the peach to our office on the 24th of August. All the samples were equally fine, measuring uniformly about $2\frac{1}{2}$ inches in diameter, round, with

red cheek, white flesh, freestone, and of excellent quality. We know of no peach of its season to compare with it. The skin separates from the flesh very easily, so that it may easily be peeled by the hand without using a knife.

AMERICA.—Samples of this new Japan plum of Burbank's were sent us August 21st by A. M. Smith, St. Catharines. This plum is a bright carmine color, nearly as large as Burbank, and of superior quality. It should take well in this market. Japan plums are much hardier than most people suppose, and may be grown wherever the English varieties thrive.

THE INCREASE OF CANADA'S EXPORT TRADE with the United Kingdom is certainly a very important subject with Canadian producers of food products, and we are glad to receive a pamphlet from H. G. McMicken, London, England, on the subject. A company is being organized to work for the extension of this trade on safe lines, to be known as The Canadian Industries and Food Supply Association.

A MEMORIAL NOTE may be permitted us just here, if we record the passing away on the 16th ult. of another of the few remaining constituent members of our Association, in the person of Mr. Chas. E. Woolverton, alluded to above, at the age of 80. One who sat about the table in the Board of Trade room in Hamilton in the year 1860, along with D. W. Beadle, A. M. Smith, Judge Logie, Charles Arnold and others, and who has been one of those unassuming yet powerful factors in the advancement of our interests.

THE HEAVY WIND STORM of the 11th and 12th ult. committed terrific havoc with the fruit orchards of Ontario, and indeed those of a large part of the apple belt of our

Continent. Immense quantities of pears and apples were blown down, and at first we feared most serious losses. But on examination we find that the larger part of the fruit blown down is wormy and defective, and would have been unfit for shipment. The remaining fruit will mature better for the thinning, and there will be less poor stuff to handle and throw away.

SPECIAL EXPORT TRADE.—The Hon. John Dryden is taking an especial interest in the development of the Ontario fruit trade. Hitherto the business has been hindered by the miserable cold storage accommodations both on rail and steamboat, but Mr. Dryden has prepared a special automatic cold storage car for use on the Grand Trunk, and special cold storage compartment of the same kind on board the steamers. The line chosen for the first shipments is that to Manchester, and should the results prove equal to expectations, other lines will be fitted up.

The Department has already sent forward two carloads, and a third will follow soon. We shall gladly make public the results when fully known.

THE INDUSTRIAL FAIR was well patronized by the fruit men, and thanks to the energetic representative of our Association, Mr. W. E. Wellington, the fruit building becomes each year increasingly attractive to visitors.

Our own experimental exhibit was superintended by Mr. W. M. Orr, of Fruitland, a gentleman well fitted by his experience at the World's Columbian Exhibition, for such work. The following extract from the Canada Farmers' Sun may be of general interest:

During our visit to the fruit building an effort was made to secure information as to the probable price of winter apples, but the success attending this effort was not particularly marked.

W. H. Orr, of Fruitland, said that he had heard 60 cents a barrel, the growers to do the picking, spoken of. One man who had 2,000

barrels to sell had offered to take 75 cents. In grapes for domestic use he counted on from \$20 to \$30 a ton as the ruling price. Speaking of the show, Mr. Orr said: "This show is two weeks too early for all but the very earliest fruit. It is impossible to get color so early in the season. If the show could be even ten days later it would add very much to the size and appearance of the fruit exhibit."

In the Fruit Department of the Fair were shown boxes with early apples and pears done up in wax paper for shipment to the Old Country. "If we can but get the price that we got last year," said Mr. Orr, "it will pay us to take even this trouble in preparing fruit for shipment. We can hardly expect, however, to get a very large market unless means be devised for shipping at less cost."

One of the best features in the fruit department was the display made by the different Ontario experimental fruit stations. This display occupied one large table and the fruit was of splendid quality. One section was devoted to exhibiting crabs and Duchess apples grown on St. Joseph's Island. "That exhibition," said Mr. Orr, "was quite a surprise to us. A great many people had no idea that such good fruit could be grown so far north."

There was found standing quietly in a corner of the building given up to fruit one whose name is but seldom heard by the public. At the same time few statesmen have done more towards bringing Canada to the stage of development which has been reached. This was A. M. Smith, of St. Catharines. Some 38 years ago that gentleman, acting with the father of Linus Woolverton, set out the first peach orchard in what is now the Niagara fruit district. This orchard was established at Grimsby on the farm occupied then, as it is occupied now, by the Woolverton family.

"Five or six hundred trees were set out at that time," said Mr. Smith. "People in the neighborhood said we were crazy for doing it; that we would not know what to do with the fruit when produced. We also set out in a nursery plantation some five or six thousand young peach trees, and it was again said we were wasting our money—that, if all these young trees grew we would be unable to find a market for them. But I had faith in the venture. Before starting to grow peach fruit in Canada I had imported peaches from Lockport, N. Y., and sold them in Canadian towns. I felt sure if a market could be found for American fruit one could be found for Canadian fruit. When our trees began bearing we induced the express company to open an office at Grimsby, and we commenced shipping our fruit to Hamilton, Galt, London and Guelph, and other towns. From our first orchard we sold some peaches up to \$4 per bushel, while a common price was from \$1 to \$3. When we netted \$300 from one acre of peaches in a single year the movement began to spread with marvellous rapidity. It spread even to Winona, where it was supposed the soil was such that would not grow peaches, but it was soon found out that this land would grow the trees as well as that about Grimsby. The late Mr. Woolverton and myself

also established a nursery for the propagation of grape vines. W. H. Orr, of Fruitland, set out what was perhaps the first vineyard for the production of grapes in a commercial way. He sold his first grapes in Hamilton at 8, 9 and 10 cents per pound."

"I only wish," put in Mr. Orr, who was standing alongside, "that we could get the same prices now. We made more from one acre then than we can from ten acres to-day."

"Of the extent of the Niagara fruit industry," Mr. Smith went on, "all the world knows more or less to-day. At St. Catharines, where I helped start the first canning factory, there are five factories in existence to-day. From one station in the Niagara fruit district, E. D. Smith is now shipping three or four carloads of fresh fruit daily, while a neighbor of his is shipping two or three cars. Taking the whole Niagara district, at a conservative estimate, the value of the fruit crop in one year will amount to \$2,000,000. All this has been accomplished within one generation."

APPLES IN BARRELS.—The following instructions for grading and packing apples were sent us by Mr. Ernest Heaton, Toronto:

1. Take barrels to the orchard, hand pick the apples, and fill the barrels from the baskets as they are brought from the ladders, putting the baskets down into the barrels, and turning them over with great care. Apples should not be picked on a hot day, nor if the apples are wet. Be particular not to pack any apples which have dropped from the trees. Haul to the barn immediately, and store the barrels on a dirt floor, if possible, as it is cooler and damper and better for the apples. Barrels should not be left in the orchard exposed to the hot sun and wet weather.

2. When you are ready for packing, take a table ten feet long by three feet wide, with side boards about eight inches high. Line the table with carpet or canvas, to prevent bruising the apples. Pour out three barrels on the table at a time. With two men to sort, use six baskets. Make at least three grades of apples, putting each grade into a separate basket.

3. First grade apples must be hand picked from the tree, of good color and of normal

shape and form, and at the time of picking free from the action of worms, defacement of surface and breaking of skin. The Ben Davis, Baldwin, Greenings and other varieties kindred in size, must not be less than two and one-half inches in diameter. The Russet, Jonathan, Spitz and other varieties kindred in size, must not be less than two and one-quarter inches in diameter.

Second grade apples must be hand picked from the tree and not smaller than two and one-quarter inches in diameter. The skin must not be broken or the apple bruised. This grade must be faced and packed with as much care as number one grade.

Third grade apples should never be packed for export.

4. To prepare the barrels. Tighten all hoops, nail them well, and clinch all nails on barrels. Mark on the end of the barrel with a clear stencil, (1) Shipper's name. (2) The shipper's brand. (3) Grade of fruit. (4) Variety of fruit.

5. The barrel should be placed on a solid plank, and continually racked as each basket of apples is placed in the barrel. A piece of timber should be used for this purpose about two inches thick, and of such circumference as will fit nicely in the barrel without leaving too much space; it should be well padded to prevent cutting or bruising the apples.

6. In filling the barrels with different grades of apples, pick out well colored apples of normal shape and standard size, cut off all stems and set or face the heads of the barrel with them, leaving the very largest apples of each grade for the middle of the barrel, so that if a buyer turns out a barrel he will find the best apples in the centre.

7. Fill the barrels so full that the apples are level with the top of the staves, using the same grade of apples for tailing as are used for facing the barrel.

8. Press the apples first with the padded block, so tight that not an apple will move

in the barrel, and then put in the head, nail hoops and securely fasten the heads with strips or liners.

9. Apple barrels when being hauled to the station should never be loaded on end, for in all cases it is bound to slacken the barrels.

SUMMER PLANTED STRAWBERRIES.—Just as soon as these first runners are nicely rooted, which hereabouts is in July, the new bed may be made. Lift the plants with some little ball of earth attached and set them in the new bed, and with a good watering afterwards the plants will take care of themselves. But when plants are purchased and have no soil with them, much more care in watering and shading is necessary, especially when the planting is in the heat of summer. I do not think much is gained in setting out runners without soil attached at any time but early spring. The chief object of summer or fall planting is to gain a bed for fruiting the next spring, and this cannot be done unless the plants make a good growth after they are planted. Plants removed with a ball of earth attached, or those grown in pots, will produce a fair crop the next season. To get these plants as vigorous as possible is the object desired.

A bed of plants set out in summer and encouraged to grow nicely will give a fair crop of large berries, perhaps not as full a crop as an older bed, but still a very satisfactory one. It may be let alone for another season, but strawberry beds should not be permitted to stand longer than two years. Indeed when plants are set in spring it is quite common to let them bear but the one crop, in the spring following, thus setting a new bed annually. Better results in the way of profits are obtained under this system than under the old one of permitting the beds to remain for several years.—*Gardening.*

QUESTION DRAWER.

A Seedling Peach.

1182. SIR,—I send you two samples of a fine seedling peach which has fruited this year for the first time. The tree is vigorous, hardy, and productive.

Jarvis, Ont.

T. H. L.

This is a magnificent yellow fleshed peach, equal to the Early Crawford, which it much resembles in appearance and quality, only that it is a clearer red.

Seedling Plums.

1183. SIR,—I am sending you two samples of plums grown from some suckers given me by a lady in Ottawa, which have borne heavily the last three years. Would you please give me the name of them or name them for me if they are not a known variety, so that I may exhibit them.

Ottawa.

W. H.

Few people except nurserymen seem to know that named varieties of fruits are propagated by either budding or grafting on some seedling stock, and that suckers from the latter will be of the nature of the stock and not of the graft.

These Plums are Seedlings, too small to be of commercial value at this season (Sept. 12th), and not worth adding to the list of named varieties.

A Cedar Hedge.

1184. SIR,—What is the proper time to plant a cedar hedge, and what is the best way of putting it in, and what size plants to use? The above will much oblige yours truly,

Seaforth.

BEATTIE BROS.

Evergreen may be removed at almost any season of the year, providing the removal is not followed by excessive drouth. The sap of these trees is gummy, and if once dried the tree will not recover. May or June is usually counted a good time, because the rains which follow settle the ground, and the trees will become established before the summer drouth.

We would advise small in preference to large size trees; for if a cedar or spruce tree

once becomes stunted, it rarely ever recovers itself. We would advise buying cedars (arbor vitae) that were about two feet in height.

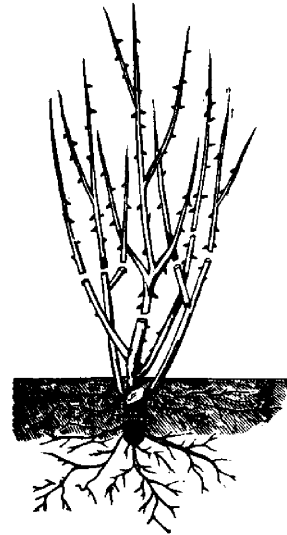


FIG. 1930.

Pruning Roses.

1185. SIR,—Kindly tell me how to winter and prune my outdoor roses. They have been set out two years, and I have tried bending the branches to the ground and covering them with straw for protection, but many of the branches are now becoming too large to be bent down, and those which were bent over have never fully recovered their upright form. How can I protect them this winter without making them unsightly? Should they be pruned, and if so, in what way? Many of the branches appear to be quite dead.

Elgin.

J. R. DARGAVEL.

H. P. Roses, which we presume are referred to by our correspondent, need to be well pruned back every year in order to encourage the growth of an abundance of young wood, for bloom is produced upon the young growth. They should be pruned first in the spring time when the growth is nicely started. We give an illustration showing about how this work should be done. If two or three good buds are left upon each branch they will be all that are

required. After the blooming season in June, it is well to cut back the summer growth again in order to encourage late growth of wood and thus produce flowers later in the season. If the rose bushes are thus kept freely cut back our correspondent will not have much difficulty in protecting them during the winter. He can easily pile straw or leaves about them to protect them from the cold, if such protection is necessary. In the Southern parts of our Province the H. P. Roses are perfectly hardy without winter protection.

Fruit Markets.

1186. SIR,—How is the grape crop with you? I hear that in Essex it is poor, but I have never had better prospects than this year. Is there any paper published containing reliable fruit markets, with hints as to the prospective prices? The Toronto papers do not give these in much detail. Of course you in the fruit centers know what the fruit is worth, but people like myself, living away from the fruit centers, have to do a good deal of guess work. I would like some advice as to reliable consignees for my fruit.

Listowel, Ont.

A. J. COLLINS.

The prospect for grapes is fairly good in the grape growing sections of Ontario,

and so far this season prices have been quite satisfactory, ranging from 1½c. to 2½c. per lb., and even considerably higher at the beginning of the season. We would refer our correspondent to the Montreal "Trade Bulletin" as a very useful paper on the fruit markets of that city, which is one of the best centers for large consignments. In this paper there will also be found the names of several commission merchants, but we would not presume to take it upon ourselves to advise our correspondent as to which of them he ought to choose.

Grimes' Golden.

1187. SIR,—Why did you give up growing Grime's Golden apple in Ontario? I have a lot that I intend planting in spring. Is there anything wrong with it?

Vernon, B. C.

R. T. F.

The Grimes' Golden is a good apple for the home garden, but lacks in two important points to be worthy of a place in the commercial orchard; (1) it is too small, which of late years is more and more considered by buyers, and (2) it lacks the color which attracts foreign buyers to our apples.

Open Letters.

Spirea "Anthony Waterer."

SIR,—In the description given by Prof. McCoun, he states "Origin, Europe; height 1 foot." The height given by him will mislead many, who do not know the shrub when planting it out, because it will grow to the height of six feet and over. I have one I planted in the spring of 1897. It was about 15 inches when I planted it. It is now five feet high and about ten feet in circumference. Ellwanger & Barry say "height from 5 to 8 feet." It is a lovely shrub and should be in every garden. Give it room and it then forms a perfect bush. As soon as the first blossoms are over they should be cut off with a pair of shears; if left on they give the bush a ragged appearance. It will then flower more or less till the end of October. Plant it where it is shaded during mid-day, because if exposed to the sun all day the flowers quickly lose their bright color.

South London.

CHAS. JAS. FOX.

Floriculture at Hamilton.

SIR,—In your last issue Mr. R. Cameron, of Niagara Falls, asks: "Is the Love for Flowers Diminishing in Hamilton." In reply I will answer. No sir, and I am perfectly satisfied that Mr. Cameron would say "No sir," if he would see our market during the week or on a Saturday. Of course, no one could help but notice the slim attendance at our recent flower show, but the reason is simply this, we have a flower show in our market three times every week, and the writer knows hundreds who visit the market for nothing else but to see the beautiful display of some of the best flowers that are grown. And of course, it is but natural to think that no one will pay to see a flower show when a most beautiful display is made on our market days. When our nurseries vie with each other, who can make the best display. The directors of the Hamilton Horticultural Society might take the hint and use the money now expended for flower shows for some other purpose. Flower

shows never will be a success in Hamilton, for the reasons already stated. The professional nurseryman will not go to the trouble of making an exhibit at any show where an admission fee is charged, and he himself does not get any cash benefits in prizes. The sales do not pay him for his trouble, and he knows where to find the buying public—in the market—that is the place where he gets his dimes. The Hamilton Horticultural Society is doing a good educational work in scientific floriculture, it is spreading its good work far and wide, long may it continue to do so, but no organization can make a flower show pay in Hamilton, when (as I stated above), there is a free and splendid show three times a week which draws out the best as well as the worst classes to see it.

23 Simcoe West.

C. HIRSCHMILLER.

early sandy soil. You can see from this that the difference could not be on account of situation or climate, so what can it be?

I am of the opinion that the peach varieties are degenerating, or running into one another from the want of proper care in selecting seeds for stocks, and buds to be used on such stocks.

It is said that the Crawford peach when first introduced in England, were of a dry mealy texture. They are certainly the reverse to-day. They are rather soft to ship, particularly the Early Crawford. The later variety is much more solid and coarser in the grain or flesh.

We hope to hear from some others on this subject.

RODERICK CAMERON,
Gardener Q. V. N. Falls Park.

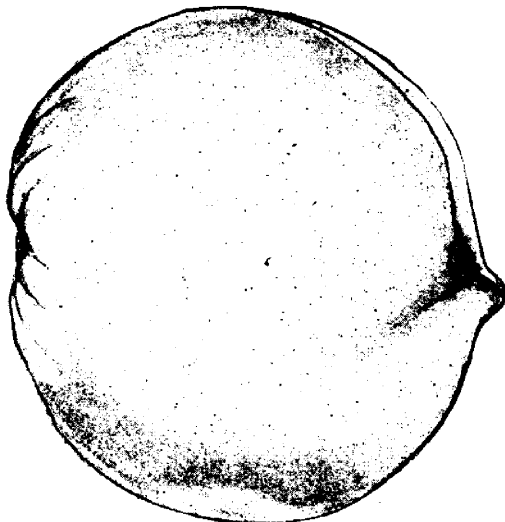


FIG. 1931. EARLY CRAWFORD.

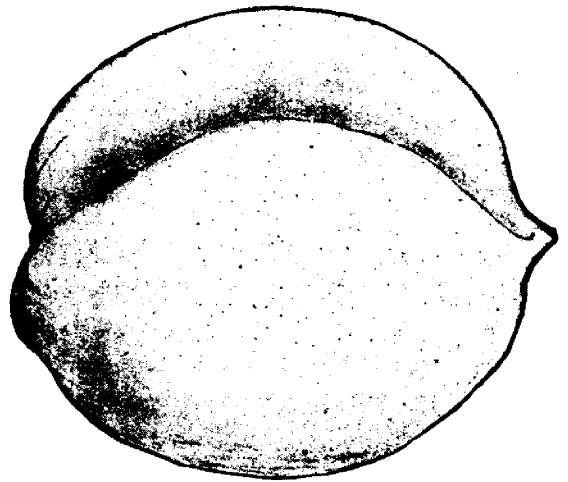


FIG. 1932. LATE CRAWFORD.

Wrongly Named Varieties.

SIR,—Are the varieties of our peaches as well known to the public as they ought to be? It would seem not, from the fruit that we see getting first prizes. We will only mention one instance, the fruit shown at the Toronto Industrial Exhibition for Late Crawfords and got first prize, the fruit being then ripe on the 4th of September. Can it be possible that the fruit could be Late Crawfords, when in the meantime the Early Crawfords were only commencing to ripen. I was led into a discussion over the plates there exhibited of Late Crawfords, with judges and prominent fruit growers, and I would like to see the case thrashed out, and to begin with, I will start the ball rolling by sending you, Mr. Editor, two cuts, one the Early Crawford, the other the Late Crawford. I also send you specimens of the fruit, which I will vouch for being correctly named, and the fruit was picked from trees about thirty years planted. The two varieties are growing side by side and not over one hundred yards back from the Niagara River, and on rich

To Kill Aphis.

Do you not use quassia chips along with whale oil soap? I see no mention of its being used in the east. Here we use 1½ lbs. of quassia and 1½ lbs. soap to 30 gals. water for aphis. I find that 1 lb. of soap alone to 15 gals. water is effective for aphis. Gillett's lye is a splendid wash before buds start to swell, to kill the aphis eggs and clean the bark, but is a little too expensive. One tablespoonful lye, 1 lb. soap, 15 gals. water for black cherry aphis.

Vernon, B. C.

R. T. F.

The Clyde Strawberry.

DEAR SIR,—I noticed in a recent issue of your very valuable paper, that you had had complaints from a number of customers about the Clyde Strawberry being soft.

Surely such parties must not have the true Clyde. I fruited 67 kinds this year, including all the leading kinds, and after three years thorough trial am prepared to say I never grew a firmer berry than

the Clyde. My best commercial berries this year were Bederwood and Warfield for early, followed in season by Clyde, Crescent, Haverland, Wm. Belt, Enormous, Ten. Prolific and Greenville. The last named is one of my family. I have added a lot of new varieties this year, and hope to be able to give you a detailed report of their behavior next year.

Now to return to the Clyde Strawberry. If it were a good plant maker and I were restricted to one variety, I should plant it alone. But with me it has been a poor plant maker and the first two years it was very good color, but this year it was all that could be wished.—Respectfully yours,

Renfrew, Ont.

W. J. KERR.

Our Affiliated Societies.

WOODSTOCK.—The fourth annual exhibition of the Woodstock Horticultural Society was auspiciously opened at the Graham street ring last night, August 22. Although the attendance was not as large as the society expected, the prospects are better for a good crowd to-night.

The dingy old rink looked anything but itself, thanks to the efforts of the decorating committee, composed of Miss Parker and Mrs. James Hay. Bunting of various colors, Chinese lanterns and a profusion of flags and curtains tastily arranged gave the place a decidedly pretty appearance, and the general effect was a source of much admiration. The exhibits, too, were far superior to those of other years, and the society is to be congratulated on its showing in this respect. Every branch of horticulture was fully and creditably represented. The musical programme was also a most important and enjoyable feature of the evening. The Imperial Quartette rendered three enjoyable selections, and Madame Hausch's popular stringed quartette was also heard to good advantage. Mrs. Balmer Watt sang the Gypsy Love Song from "The Fortune Teller," by request. Mrs. Watt's number was very much appreciated. Miss Clara Farrell sang a pretty solo and was obliged to respond to a hearty encore. The Misses Holmes and Nesbitt gave well rendered piano solos.

Mayor Scarff's splendid floral collection, consisting of one hundred and seventy-eight pots of flowers of various kinds, was greatly admired, and nobody disputed the fact that the Mayor's was the best exhibit of its kind at the show.

Charles Reid's and J. H. Callander's collections of cacti were the centre of much attention, and admirers of these plants found many new and strange varieties.

D. W. Karn's exhibit of house and foliage plants occupied a prominent position and compared very favorably with those of any other exhibitor.

T. H. Parker showed a wealth of beautiful hardy house plants and cut flowers.—*Sentinel Review*.

PICTON HORTICULTURAL SOCIETY.—The second annual flower show and exhibition of plants was held at the Crystal Palace on Friday evening, the 31st August, and was kept open on Saturday afternoon and evening, and also on Monday afternoon during the Firemen's games and sports.

On Friday evening the attendance was fairly good, there being about 275 present to enjoy the

flowers and listen to the concert by the band; on the other occasion the patronage was very small, and on the whole the flowers were not appreciated as heartily as last year.

The contributions of Mr. C. S. Wilson and Messrs. J. Terrill & Son added greatly to the beauty and success of the exhibition. Mr. W. P. Despard's palm was greatly admired, and the Norfolk pines and palms in Mr. Geo. O. Alcorn's collection were a very valuable addition; also Mrs. Stortz's magnificent hydrangea, and Mr. Geo. Williams' fuschia. The collection of plants and flowers from Messrs. J. Roland Brown, J. P. Blakely, T. Bog, J. C. North, Geo. W. McMullen and a number of others were very beautiful.

The tropical plants of Mr. Walter T. Ross were as usual of much interest. His fig trees were well laden with fruit, and the Papaya tree, or Papaw, was looked upon with much curiosity. It is a common practice in the tropics to cut meat in slices and wrap it in the bruised leaves of this tree for half an hour or so, which has the effect of making tough meat tender.

Great credit is due to the president, Mr. J. Roland Brown, and Mrs. Brown, for their untiring efforts, and they were ably assisted by others.

We understand the receipts were not as large as last year, but the exhibition in itself was a great success, even finer than the previous one, and a great many strangers who attended expressed their surprise that a town the size of Picton could make such a varied and fine exhibition of well grown plants and flowers.—*The Picton Gazette*.

GUELPH.—God made the flowers, and that He made them for man's delight and profit need only be proved by a visit to the City on Sept. 12th. The place is a reasonably beautiful hall, as city halls go, but last night the corridors and auditorium were transformed, and one walked about in a perfect bower of loveliness. The flowers and plants, placed to best advantage to show their beauties by admiring owners, had worked the transformation, and when the orchestra played sweet music, and the big crowd came and admired, the directors and members of the Horticultural Society felt well repaid for their efforts and realized that the show was a big success.

The Guelph Horticultural Society, as at present constituted, is an association of about a year's standing, and its strength of membership already attained was shown by last night's display. Most

of the members are amateurs, and their gardening efforts are confined to the beautifying of home surroundings. But they are nothing if not enthusiastic, and when this display was proposed about a month ago, everyone concerned agreed to do all they could to make it a success in the way of contributions. The result was an almost overwhelming assortment of flowers and plants, in quantity sufficient to fill all the tables provided, fill all the corners available, bank up the stage, and then overflow into the old hall.

The greater portion of this display was made by amateurs, and to them much credit is due. The finishing touches and crowning features were provided by the professional florists, whose display was worthy of any metropolitan centre. The display tables, covered with white paper and draped with muslin and green foliage, formed a V from the stage, with a centre row of floor plants, and side tables along the walls. This arrangement proved very effective. Thain's orchestra was on the stage, behind a bank of flowers and plants which included, as one lady fittingly put it last evening, "most everything lovely."

Of the professional displays, the banking effect on the centre floor by Capt. Mann is worthy of note. This is the latest decorative effect, and it certainly makes the best and most of the plants used. Mr. Mann also shows a pretty supper table design. Mr. Jas. Gilchrist shows a fine collection of ferns as his principal feature, making special showing of the new Sprengrie fern: the latest decorative green. This is handsomely contained in a number of rustic hanging baskets in the windows, and gave a beautiful drooping effect. Mr. Gilchrist also shows some beautiful floral designs. Next his display is a table of rare cannas sent from Toronto by Mr. Archibald Gilchrist. The display was very favorably commented on.

Of the many meritorious amateur exhibits it would be invidious to make distinction. They

were so numerous, and withal so creditable, that it would be difficult indeed to make an order of merit. Immediately on entering the building one was bound to exclaim in admiration at the sight of the big rubber plant, fully twelve feet in height, the property of Mr. J. W. Lyon. This gentleman showed a large assortment of beautiful things. One of the happiest men in the place, happy because he loves the flowers, was Mr. Thos. Davies, Guelph's veteran amateur florist, who has many lovely plants, the showing of which he is justly proud.

Some of the special features were: "The aster table," as fine a collection as one could wish to see; "the yellow table," a bewildering phalanx of golden glow, dwarf sunflowers and coreopsis, eloquent of autumn, and the fine display of flowers and foliage begonias. Then one might mention the queen white nicotine flowers, blooming only at night; the generous bunches of sweet peas, redolent with fragrance; the fuchsias, the every day geraniums, the fig trees, the pousettia, and the Japanese lilies, all of them lovely, while towering high over all rises the big "dracena indivisia," the very lord of palms, with the "sea maze" and "fish-tail" palms to keep it company. One scarce need think of other decoration, but in this regard the good taste shown by the management is commendable. Flags give a patriotic touch, and evergreens complete the simple embellishment to the plants themselves, and surely no more is necessary.

The exhibition is free, and the exhibits and work contributed by the members has been entirely voluntary. As an educative feature, this display must be commended, and everyone, whether interested in flowers or no, should pay a visit to the City Hall this afternoon or evening, and thus encourage the management in their worthy efforts.—*Guelph Daily Mercury*.

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