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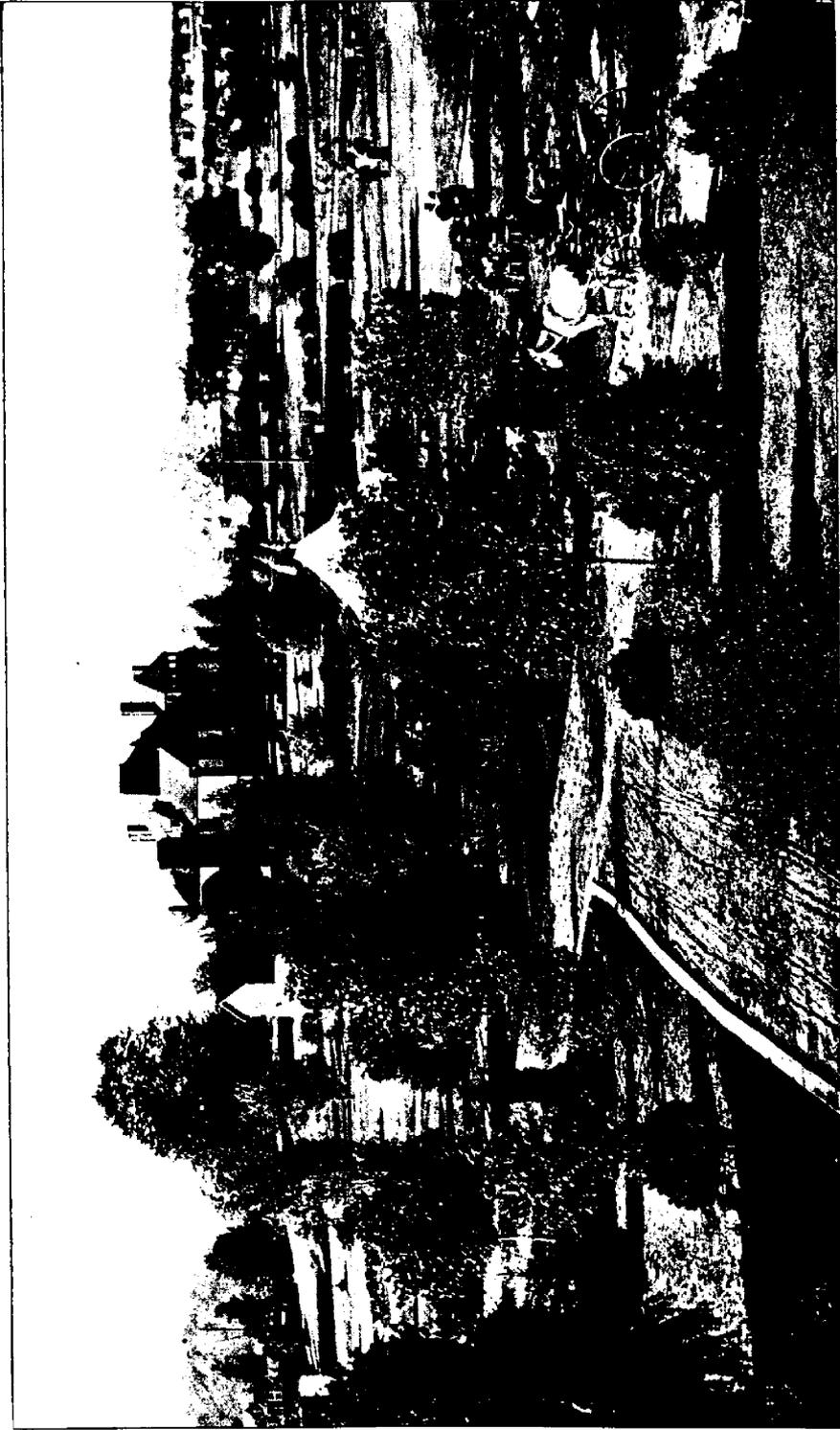
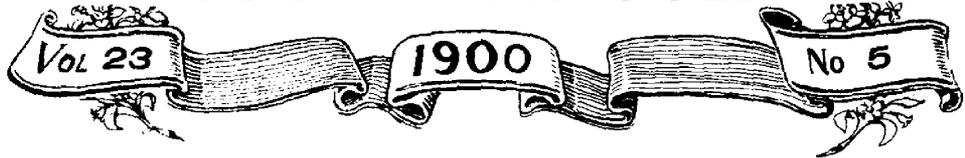


FIG. 1700. View of part of Shrubbery on the Central Experimental Farm at Ottawa, Ontario.

# THE CANADIAN HORTICULTURIST



\* \* MAY \* \*

## CENTRAL EXPERIMENTAL FARM NOTES—VII.

**T**HE snow has been gradually disappearing since the middle of March, but there has been little warm weather since that time and very little rain. Sleighing was good in the country up to the end of March. While it is too early yet to write from experience, the probability is that this spring will not be any earlier than last year. At this date, the 14th April, snow may still be seen in places which do not get much sunshine; the frost is not yet out of the ground, and the weather remains cool. What is now needed is a warm rain, followed by drying winds.

The benefits of mulching fruits and flowers in autumn are already apparent. Strawberries in the vicinity of Ottawa which were not covered last autumn will nearly all be killed out. The strawberries at the Experimental Farm which were given a light dressing of straw do not seem to have suffered much, but as the covering has not yet been removed some varieties may have been injured. The lawn grass which was mulched with manure has a greener appearance than where left uncovered and the grass in a few

exposed places may be killed outright. It is very probable that bulbs such as hyacinths, tulips, and narcissus where not protected have suffered. At the Experimental Farm we are confident that they will be all right. The tulips already are showing well, and snowdrops are coming into flower. The great advantage of a mulch which will lie loosely over herbaceous plants was very apparent this year, as where evergreen houghs were used they came out much fresher. This is especially applicable to pansies, as, if a mulch lies too closely over them, they are liable to suffer almost as much as if no mulch was given.

During the past winter extensive experiments have been carried on with lime mixtures of different strengths on apple trees infested with oyster shell bark louse. The trees were thoroughly sprayed with the mixtures and were made quite white from top to bottom. The object of these experiments was to find out if the oyster shell bark lice could be removed thoroughly and economically from the trees by the use of lime, as there was no evidence to show from experi-



FIG. 1791. FLOWERS IN SHELTER PLACE AT CENTRAL EXPERIMENTAL FARM.

ments conducted a year ago that it would do this. As the lime appears to loosen the scales and the rain wash them off, the effect of the former will not be fully apparent until later in the season.

The work of top grafting the less hardy apples on hardy stocks which was begun last year will be continued next week. The stocks used are Haas, McMahon White, Gideon and Hibernial, as these are very hardy trees, having trunks which do not sunscald, as a rule. It is expected that good will come of this work, as, if the terminal growth does not kill back, those varieties which are subject to sunscald should succeed when grown in this way, provided the stocks are suitable. Northern Spy, which does not succeed when grown in the ordinary way, has been fruiting for several years now, top grafted on Wealthy and Duchess, but as these stocks are two slow growing for the Spy, the trees are becoming top heavy. We are also top grafting the best pears on the Russian varieties to see what the effect will be.

By the time this number of the Horticulturist appears some of the best early perennials will be in bloom or just coming into bloom. One of the earliest and finest of these is the Spreading Pasque Flower (*Anemone patens*), with its large, purple bell-shaped flowers. It begins to bloom at Ottawa in the fourth week of April, when its lovely flowers are very desirable for cutting, there being few other perennials in bloom at that time. Following this, during the first week of May, is the Ox-eye (*Adonis vernalis*), a little plant from six to nine inches in height, with large, lemon-yellow flowers and finely cut foliage. It is a very pretty and dainty plant, and while not very good for cutting, it is desirable on account of its earliness.

The Doronicums, which begin to bloom during the second and third weeks of May, are also fine. The flowers are large and yellow, and the plants from one to two feet in height. *Doronicum Caucasicum* and *Doronicum plantagineum excelsium* are two of the best; the former is earlier than the latter, but not quite so striking. The Epi-mediums or Barrenworts are little Japanese plants which begin to bloom during the second week of May, and which, for gracefulness and delicacy of color, are difficult to excel among early flowering plants. They are excellent for cutting, the flowers having long stems and the foliage, which is of a shade of green tinged with bronze, going well with them.

Among early flowering perennials, the old fashioned bleeding heart should not be omitted, as the plant is covered with showy flowers for a long time. Other good flowering perennials which bloom in May are the columbines, of which the best are *Aquilegia oxysepala*, *Aquilegia glandulosa*, *Aquilegia Stuarti*, *Aquilegia coerulea*, and *Aquilegia Canadensis*. These are all very beautiful. Then there are the white alyssum, *Arabis alpina*; prophet flower, *Arnebia echioides*; lily of the valley, *Convallaria majalis*; evergreen candytuft, *Iberis sempervirens*; iceland poppy, *Papaver nudicaule*; lovely phlox, *Phlox amoena*; creeping phlox, *Phlox reptans*; moss pink, *Phlox subulata*; creeping Jacob's ladder, *Polemonium reptans*; and the globe flowers, which are among the best of the early perennials. Of these *Trollius Europaeus*, *Trollius Ledebourii*, and *Trollius giganteus* are some of the best.

W. T. MACOUN,  
Horticulturist.

Central Experimental Farm,  
Ottawa.



FIG. 1792. THOMAS BEALL LINDSAY.

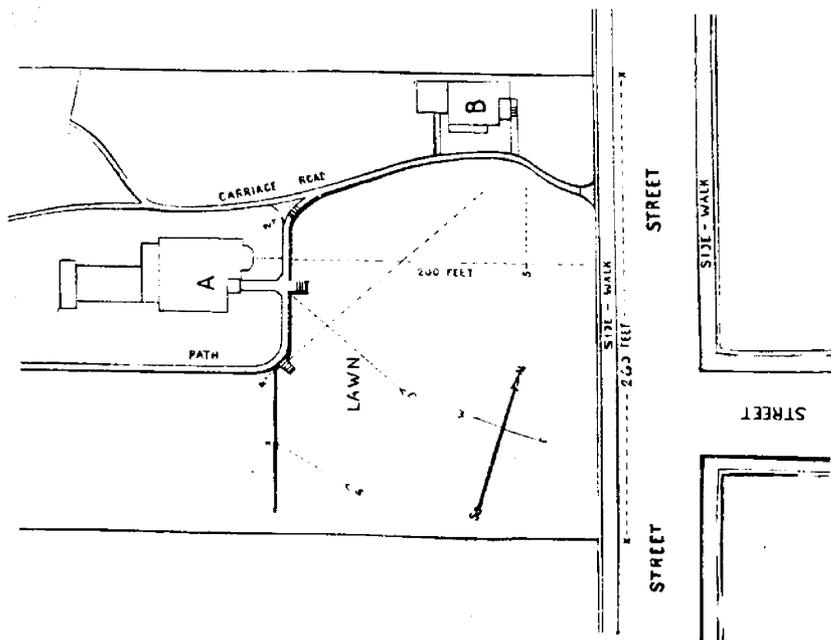


FIG. 1793. PLAN OF MR. BEALL'S GROUNDS.

## DIRECTOR THOMAS BEALL AND HIS HOME.

**T**HE series of excellent articles by W. H. Manning, of Boston, on Landscape Gardening has stirred up considerable interest among our readers on this important subject. It was with much pleasure that we recently opened a mail packet and found it to contain a series of views of the grounds surrounding the home of Mr. Thos. Beall, of Lindsay, our well known representative from the County of Victoria accompanied by the following note :

"The photographs presented herewith may not, as pictures, be specially admirable, but in so far as they show effects which may be produced in treating a nearly level, uninteresting piece of land, which had been stripped of every tree and bush, and by following as nearly as possible the rules for laying out grounds as given by the best authorities on such matters, it is hoped they may be of service to some of your readers who have in view the planning of a HOME.

"The ground plan given is of the eastern position of the plot (the whole being five acres in extent). The house shown at A is placed over two hundred feet back from the street. (The house "B" built recently was not completed when the

place was laid out), and the entrance gate is about sixty feet from the north east corner of the property.

"The pictures Nos. 1, 2, 3, 4, 5 and 6 respectively are views taken from the positions marked by corresponding figures on the plan. No. 6, however is merely to give some faint idea of the appearance of the Tartarian Honeysuckle in bloom at maturity when not spoiled by injudicious pruning. This shrub now measures nineteen feet in diameter and is fourteen feet high in the centre.

"The writer laid out these grounds and planted, or superintended the planting, of every tree and shrub shown in these photographs."

In volume XV of this journal, page 195, we give a sketch of the life of Mr. Beall, who has now been on our directorate for twenty-two years.

Mr. Beall was born in Cornwall, England, in 1828, and came to Canada in 1840, settling at Lindsay in 1860. Recently he has been appointed organizing director of Affiliated Horticultural Societies, a work in which he has rendered excellent service both to the societies concerned and to our Association.

Early in life Mr. Beall became somewhat of an expert in perspective drawing. This led to mechanical and architectural drawing, *i. e.*, that branch of architecture known as Rural Architecture. A careful and systematic study of this branch of the subject led to a critical study of rural homes and its surroundings, which of course included what is



FIG. 1794. VIEW AT 5.

known as Landscape Gardening. Fortunately about this time he had the opportunity of consulting some of the publications of that king of landscape gardeners, the late Humphrey Repton and also other excellent English authorities, and a little later the work of the late A. J. Downing, of Newburg, N. Y., who, he was pleased to find,



FIG. 1795. VIEW AT 2.



FIG. 1796. VIEW AT 4.

corroborated his previously formed opinion of the trustworthiness of the principles of this art as laid down by the English authorities, and especially by Repton in his rules for placing the house, the entrance to the grounds and the approach; for therein lies the key to success in this art. The laying out of the grounds after these points are settled is comparatively easy work. But



FIG. 1797. VIEW AT 1.

then a thorough knowledge of the character, forms, habits, color of foliage, etc., etc., of all the trees and shrubs required, together with the knowledge of the effects of flower beds, etc., in certain situations, is absolutely indispensable.

There is at Lindsay, on the right bank of the river just above the town, a very beautiful

cemetery. It is admired by every visitor, and is noted far and wide for its trees and shrubs, many of which are of rare beauty, and are in great variety. The owners, a joint stock company, got an expert from Rochester, N. Y., to lay it out, and it was fairly well done. The company also gave this man an order for all the trees, shrubs, etc., required (a place for each one was marked on the plan), all of which was duly received and the bill



FIG. 1798. HOME OF MR. THOS. BEALL. VIEW AT 3.

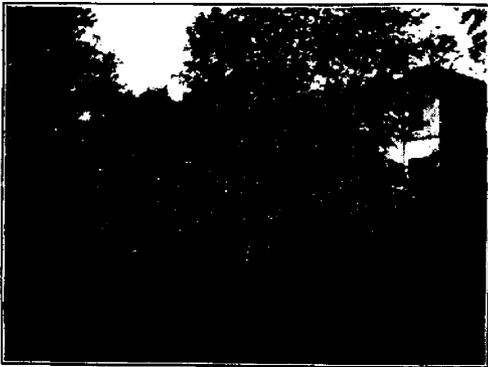


FIG. 1799. VIEW AT 6.

for which was (about twenty-five years ago) \$127.00. In two years there was not a dozen living specimens in the cemetery. It was a complete failure principally because the stock furnished was unsuitable for the situation. At the request of the company Mr. Beall then undertook the selection and purchase of the stock required and also the supervision of the planting and the subsequent care of the same for one year. The cost of the work was less than one half of the first transaction, and the result is as stated in the two first sentences of this paragraph.

AMONG apples and pears certain sorts assume naturally very different forms of growth. Some grow close and compact, some horizontally and crooked, while others are slender and thin in their growth, and are indisposed to put forth lateral shoots. Winter Nelis Pear is of the latter class. In such a case it will be necessary to prune closer than in the others at the winter pruning. If the

thinning of the shoot is attended to in the summer, and gross wood in the middle of the tree kept under, winter pruning will be reduced to a minimum. Trees brought into a bearing state by the above system of pruning and training will not require root-pruning so often as if pruned on the cut-and-hack system which unfortunately prevails among some in the present day.—*Journal of Horticulture.*

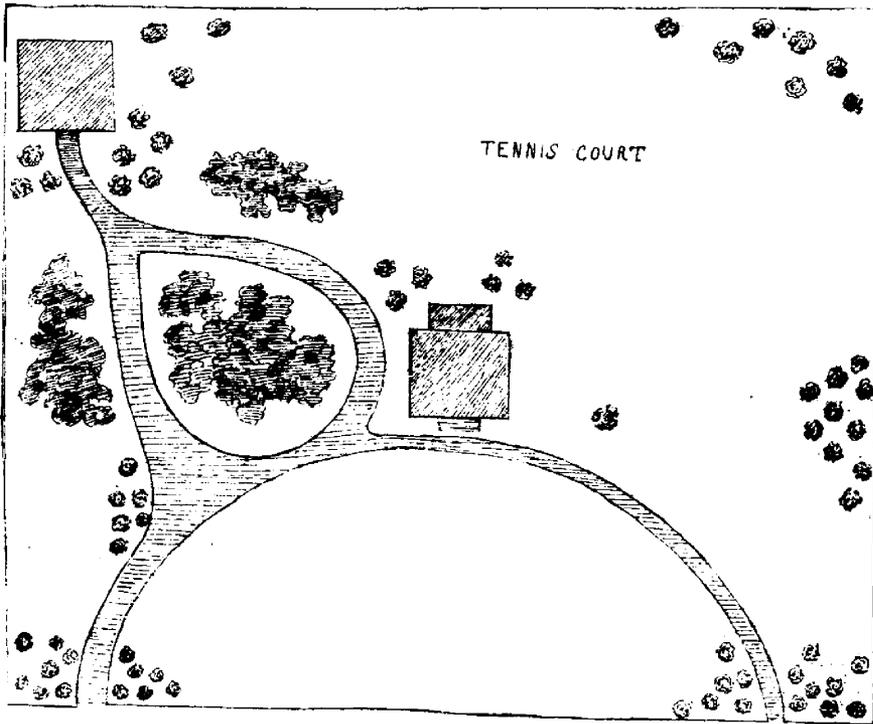


FIG. 1800. PLAN OF GROUNDS.

## THE HOME AND ITS ENVIRONMENT.

OUR Canadian farmers and fruit-growers give too little attention to the decoration of their home surroundings. Every one may not be able to build an expensive house, but even a neat little cottage surrounded by the adornments of nature may become more beautiful than a mansion unadorned as to environment by either nature or art.

In the beautifying of a home, trees are essential. They are not only beautiful in themselves, but often serve to shut out objectionable views, to afford shelter from high winds and also to give shade from the heat of the sun. In grouping trees for ornamentation one should become quite familiar with the various forms and characteristic features of trees, for if a man knows nothing of the

shape which a tree will take when fully matured he may make serious blunders.

One mistake commonly made is planting too close. This very often shuts out views

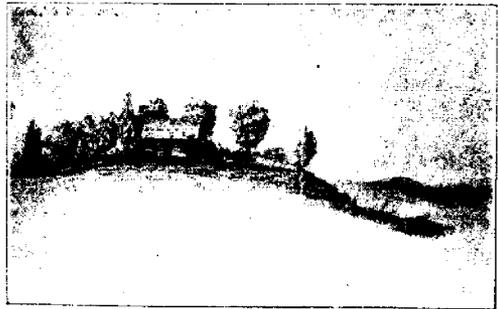


FIG. 1801.

HOUSE FIRST ON AN OPEN PLAIN IMPROVED BY PLANTING TREES, ETC.

of interest and beauty. The trees also become so entangled with each other that their individuality is entirely lost. They must all either be cut down, which means to begin again, or the least valuable thinned out and the remaining ones pruned and trimmed into proper shape. This is by no means an easy task nor is it a desirable one. Prevention is the best cure and I would therefore advise no one to plant too closely in the start.

Trees which are grouped for their special beauty should be so placed that the tallest trees will be in the centre, while around them may be planted the lower and more rounded ones. Trees with heavy foliage should not be planted by those with light foliage, but something of an intermediate tone should intervene.

For small places one should depend mainly on shrubs and by a little careful selection from the different families grand masses of bloom may be had throughout the season. Such shrubs as spirea, weigela, deutzia, hardy hydrangea, Japan quince and double flowering almond produce a magnificent effect when grouped together.

A broad, open lawn in front of the house has a pleasing effect. Trees or shrubs may be planted at the borders but never in the centre. A lawn should have a restful appearance to the eye, and if shrubs are scattered about the lawn this effect is destroyed. On the other hand, if the eye passes over a lovely, open green sward and then rests on



FIG. 1802. TURN IN ROADWAY.

masses of well grouped shrubbery the effect will be very pleasing. Groups may also be placed at the entrance or on the bend of a driveway, so that on entering you do not see all views at once, for if everything is seen at one glance your curiosity is soon satisfied, and it is therefore much better to have your trees and shrubs arranged so that from different points different views may be obtained.

Climbing and trailing shrubs are very useful and beautiful for covering cottages, verandahs, walls, trellises, etc. The cooling shade they afford to verandahs cannot be excelled by any artificial means. This is no doubt due to the excessive evaporation of moisture from the leaves. Perhaps one of the finest vines for covering a verandah is the Virginia creeper. It affords shade quickly and in the fall the leaves become a rich crimson. For covering stone or brick walls no other plant can excel the Boston ivy. The leaves

overlap one another and form a dense sheet of dark green, turning to crimson in the autumn. The first winter it may require a little protection from the frost, but when once it has required a good growth no further risk need be feared. The Clematis Jackmanni is a very beautiful climber for a verandah where a trellis may conveniently be put up. Its flowers are large, violet pur-

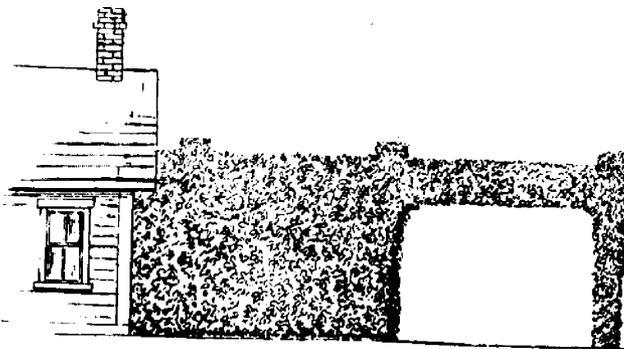


FIG. 1803. WALL WITH CLIMBING VINES.

ple and remarkable for their velvety richness. It should be planted in a deep, rich, sandy loam, well mulched in the winter by rotted manure. The bloom attains its highest degree of perfection if the plant has partial shade and liberal supply of water at the roots.

A home is not a home at all unless it is at least surrounded by a few of the beauties of nature. Her beauties are not hard to find, for man with his eyes open cannot help see-

ing them every day of his life. In beautifying your home the best guide you can find is nature herself. Just notice the woods in all their autumn glory, how many thousands are massed together and yet all is perfect harmony. We should therefore try not to mar nature's ideals, but rather to join with her in seeking to make our Dominion beautiful.

CHARLES ERNEST WOOLVERTON.

O. A. C., Guelph, April, 1900.

## COOL STORAGE FOR APPLES.

SIR.—Could you give us in the Canadian Horticulturist a simple plan for a cheap building capable of holding from 100 to 500 lbs. apples, where the temperature could be lowered by a sub-earth duct or other means.

Last October we had very warm weather after the apples were gathered and what were in open buildings were much injured.

Some form of building in which the temperature might be partly controlled at least, would be of much value to the fruit growers.

J. C. GILMAN, Fredericton, N. B.

We have in Ontario and in New York State, at shipping points here and there, large apple storage houses, the walls, floors and ceilings of which are made impervious to cold or heat by dead air spaces, and by the free use of saw-dust; places where in fall and winter season cool air may be admitted from the outside when needed, and frost cannot enter when apertures are closed. Then we have some ice cooled store houses, which have been built for summer use in storing pears and peaches, but we do not know of one that would just meet the wishes of our subscriber so well as one recently described in *Country Gentleman* as follows:—

Our readers will understand that the details of this plan can be modified considerably where circumstances demand. In fact, this scheme would naturally not be adopted except on perfectly level land. Sloping land is very convenient for building such a stor-

age house. When one has a good slope he should make the front of his house on the lower end of the incline; he should make the floor just high enough so that barrels may be easily discharged from the wagon on to the platform at the front door; and he should let the building run back into the ground just as deep as the slope makes necessary. Putting the house partially below the ground will help to regulate the temperature.

The main storage room of the house herewith illustrated is 36 by 38 feet, and will hold just about 1000 apple barrels when full. They will then be piled up three tiers high, which is not an inconvenient arrangement. Apple growers have generally found it best to store apples in barrels. The house also has a sorting and packing room 10 by 36 feet, all of which space will be needed. This packing room stands next to the outside



*Fruit Storage-House—Side.*

FIG. 1804.

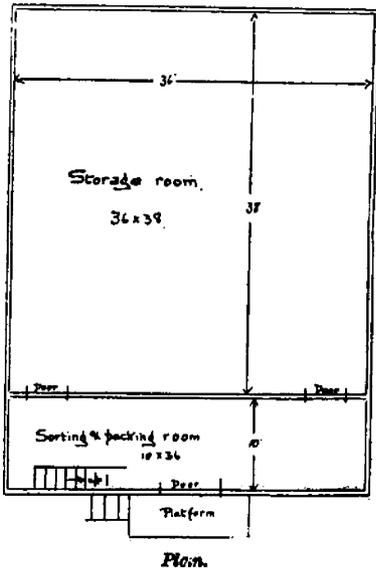
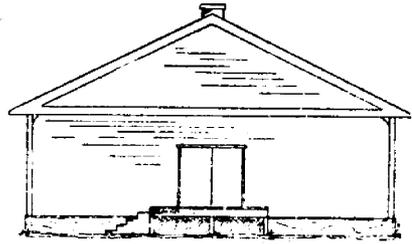


FIG. 1805.

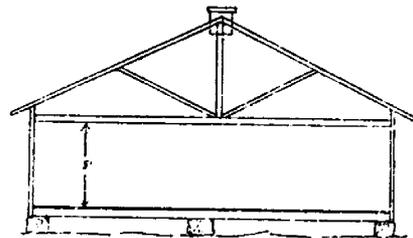


End Elevation.  
FIG. 1806.

of Virginia. The temperature can be easily controlled by the windows and the ventilators shown in the various elevations. This method has been tried by hundreds of fruit growers, and has been found much superior to ice storage under most circumstances.

The walls should be double-thick. Inside they should be boarded with matched lumber on the studs, and then closely ceiled on top of this. The ceiling should also be heavily painted. This is absolutely essential. Outside they should have a sheeting of inch lumber and a coat of building paper on top of this, the whole to be covered with matched novelty siding. This may seem a good deal of material to put into the walls, but it will pay. Still, one or two layers may be omitted "at the owner's risk."

This house will cost from \$800 to \$1200, depending on who builds it, and where.



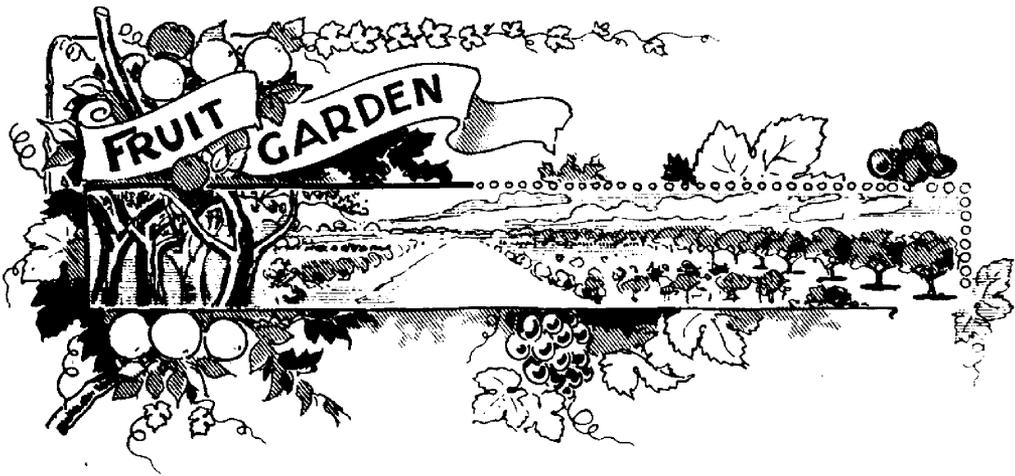
Section.  
FIG. 1807.

door, and the only entrance to the storage room is through this sorting room. This protects the storage room from outside temperatures, and permits work to go on, either bringing in fruit or taking it out, without disturbing seriously the atmosphere in the storage room. The space overhead will be needed for storing barrel stock, &c.

The front (double sliding) door should be 6 feet wide, and the two inside doors should be 3 feet 6 inches. It will be an advantage to have two inside doors, arranged as shown in the plan. If a single door is used between the two rooms and is put in the middle of the partition, it will admit more drafts of outside air to the storage room, and will not be so convenient in handling barrels from one room to the other.

No ice or artificial refrigeration is needed in this house, at least not for any place north





#### FRUIT CULTURE.—IV.

**P**RUNING.—As the matter of laying out the orchards and planting were dealt with under "General Principles," it may be assumed now that the trees is planted, and the question is,—how prune? If the average orchardist realized the importance of early pruning, of careful and systematic shaping of the tree during the first few years of its life, there would not be so much injurious slashing and butchering of bearing trees. Directly the tree is planted its future shape and habit should be formed to a certain extent. Severe cutting back has got to be accomplished with the newly-planted tree that the top may correspond with the shortened roots, but let the cutting back be on some system. There are two types to be aimed at, the one represented in Fig. 15, of the open and spreading character; the other in Fig. 16, that where the leading shoot of the young tree is trained up. This latter plan gives a stronger and a better tree, but the form is not practicable with all varieties. In such a plan the leader is selected and

trained from the start as in Figs. 17 and 18, the other branches being shortened back so as eventually to form a well-balanced head. In the other plan three or four branches are

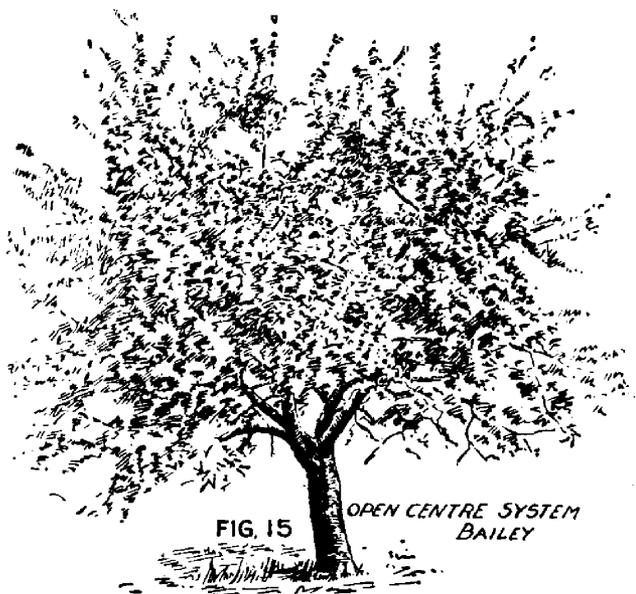


FIG. 15 OPEN CENTRE SYSTEM  
BAILEY

allowed to form a head and the centre is kept more open. Great care should be taken in shaping the top, not to allow the formation of a crotch. A tree of that kind

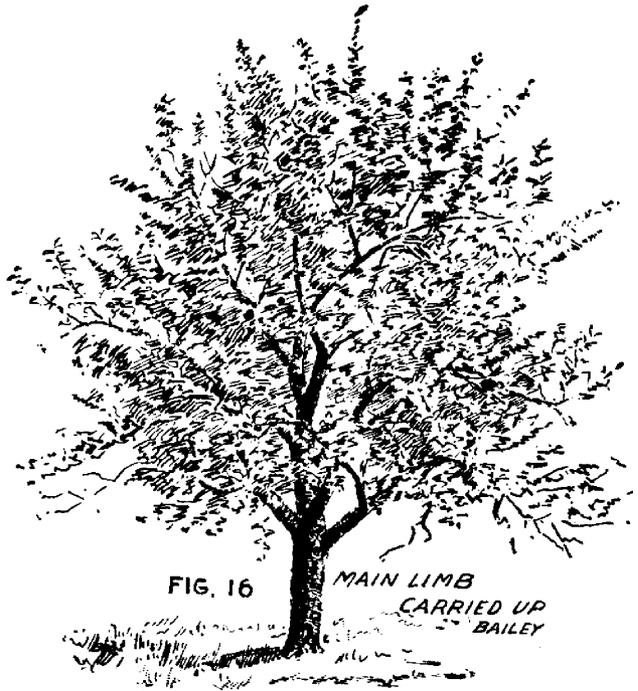
will be likely to come to grief in a high wind or under a big load of fruit. The branches should be taken alternately so as to allow the strain to be divided and not to fall on the main crotch. See Fig. 19.

The head should start about four feet and a-half from the ground, Figs. 20 and 21 showing the shortening back process of a young tree which had got too tall.

During the first summer's growth, if proper care is exercised and undesirable shoots pinched off, the tree (Fig. 19) will, by the fall, be like Fig. 22, which may be considered a well formed head. When the general shape of the top has got well established, and this should be done by the end of the first three years, all the pruning required will be the removal of limbs that cross or rub each other, or that make the head of the tree too dense. The best time for pruning in Ontario is probably at the close of the winter, and just before the sap starts. By systematic work, as suggested, a sharp knife will do all the pruning, and the tree will be spared the shock of losing large limbs. It is necessary, however, sometimes to take off good-sized branches, and there is a right way and a wrong way of accomplishing such work. The wrong way—often practised—is to saw off the limb, leaving a stub of wood sometimes several inches long. Without going too deeply into this question it may be said briefly that the healing of a wound is entirely dependent on the flow of the cambium, or sap, layer. The following illustrations from Prof. Bailey's excellent publication, "The Pruning Book," will point the moral and adorn the tale. A limb removed as in Fig. 23, simply means the existence of a dead stub, through the base of which rot is likely to attack the tree. Fig. 24, where the limb is cut close to

the tree, shows that the healing process from the flow of the cambium layer is rapidly taking place. Large limbs should be removed just before growth begins, and the wounds should be coated with paint. But, most important of all, "*the cut should always be made close to, and perfectly even with, the outline of the trunk, without regard to the size of the wound made.*"

CULTIVATION OF THE ORCHARD.—In the chapter on "General Principles," this matter has been treated at some length, but the question arises, what crops may be grown in the orchard till it reaches bearing age? Grain and hay should certainly *not* be, as, apart from the plant food they take from the soil, the amount of moisture they rob the trees of is incredible. If such crops are grown, there should be a space of at least four feet of cultivated ground next the tree row. The best crop for the young orchard would be root crops, potatoes and corn, and every year the trees should have more room. Fig. 1, 2 and 5 show how extensive is the



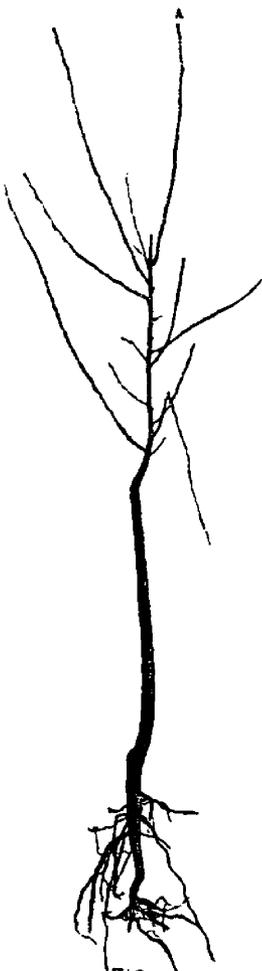


FIG. 17.  
Second-class  
apple tree, showing  
leader at A



FIG. 18. BAILEY  
Second-class  
tree, showing  
leader at A



FIG. 19  
Figure  
of thinned and  
shortened-back  
young tree.



FIG. 21  
The same,  
after the operation  
is completed.



FIG. 20 THOMAS  
- Mode of  
Reducing the  
Height of a tall  
young tree by  
cutting at the dot-  
ted line.

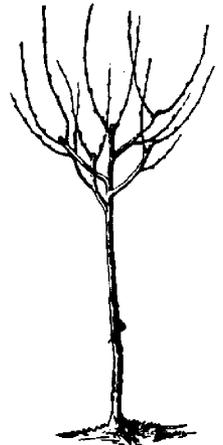


FIG. 22 THOMAS  
- Well-formed  
Head

root system of trees, and it should be remembered that unless very high manuring and thorough cultivation are given, the trees must inevitably suffer if the roots of other crops are extending over their feeding grounds. After the trees are in bearing it would certainly be wiser to give the trees all the ground, keeping the ground cultivated with the harrows or cultivator. About August 1st, when growth has ceased, it is a good plan to plow up to the trees and sow crimson clover, rye, or some other cover crop, to take up the root moisture which

might induce an undesirably late growth in the trees, and to form a protection for the winter. Such a crop, however, should be plowed under very early in the spring, not left to evaporate moisture and be plowed under with more or less injury to the feeding roots of the trees. As to the question of sod in the apple orchard, it might be confidently said that the best and most successful orchardists are unanimously against the practice. Insects and fungous diseases are usually worse in such orchards. They seldom get what they should, viz. : a generous

top dressing of manure, and, worst of all, there is an increasing tendency towards a surface habit of the roots. Fig. 2 (of this series) shows where the roots are in sod. In a dry season such trees decidedly suffer, and, if left too long in sod, the eventual plowing becomes a difficult and very destructive process.

As to the distance in planting something depends on the nature of the soil and the locality. With vigorous growers and a good soil, forty feet apart is better than a less distance. From thirty-five to forty feet will be none too far, if every care is given to the orchard. The latter distance will pay for itself by the additional convenience in spraying, cultivating and picking, and by the improved quality of the fruit.

THINNING has not been touched on, though it will be dealt with fully under the peach. The thinning of apples has been successfully attempted in New York and Massachusetts. The work was done by hand, and at a cost on large trees of from 30 to 80 cents a tree. With good varieties it would undoubtedly pay where the trees were loaded, inasmuch as it would not only increase the size of the fruit and lessen the drain on the tree's vitality, but it would largely do away with the 'off year' which is simply a result of overbearing.

VARIETIES.—For a specialized list, suited to the various counties of Ontario, readers are referred to pages 141 and 142 of the report of the Ontario Fruit Growers' Association for 1893.

For the coldest sections of the Province the following may be recommended :

SUMMER.—*Yellow Transparent, Duchess.*

AUTUMN—*Gravenstein, Alexander, Wealthy.* St. Catharines, Ont.

M. BURRELL.

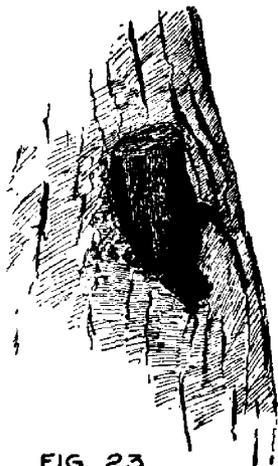


FIG. 23.  
Improper cutting of a limb

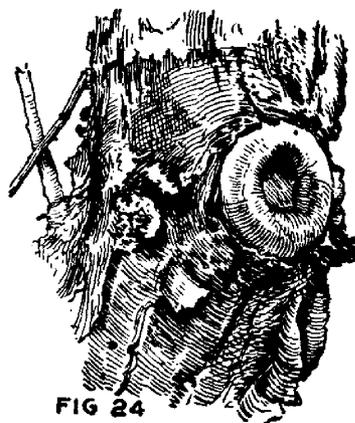


FIG 24  
Proper cutting of a limb.

WINTER—*Pewaukee, Scott's Winter, Golden Russet.*

For the milder districts :

SUMMER—*Yellow Transparent, Duchess.*

AUTUMN—*Gravenstein, Colvert, Wealthy, Ribston, Fameuse or Snow.*

WINTER—*Northern Spy, Baldwin, Ontario, Greening, Cranberry Pippin, Golden Russet, Blenheim Pippin, Stark and Ben Davis.* The two last need not be included in a list for home use.

FUNGI AND INSECTS—The insects chiefly attacking the apple are the codling moth, the canker worm, tent caterpillar, the borer, the oyster-shell bark louse and the apple louse. Instructions on the methods of fighting these pests will be found in the 1896 and 1897 report of the Superintendent of Farmers' Institutes, pp. 180 to 196.

Apple Scab, Fig. 24 A—Leaf blight, canker, etc., are referred to in the Government Bulletin "Instructions in Spraying." A careful examination of the report of Superintendent of Spraying will convince orchardists that apple-scab can be successfully controlled by faithful and intelligent work.

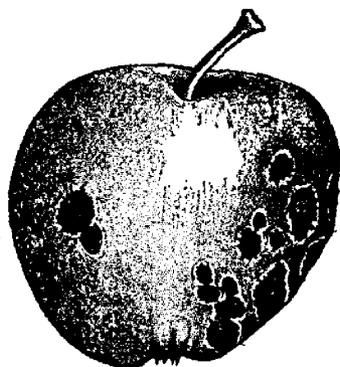


FIG. 24A Apple-scab.

## DWARF PEARS.

**H**ERE is one special advantage in growing dwarfs, over standards, and that is the ease of gathering the fruit. Few, however, seem to have the best success with a dwarf pear orchard, owing to common faults of treatment.

These are (1) *planting on poor soil*. A thin light sand is the worst possible, and would not yield fruit of large size, nor any quantity of it. A sandy loam will do very well, but a rich clay loam, well drained, is best of all.

(2) *Lack of Cultivation*. No worse treatment could be given than to leave a dwarf pear orchard in sod, or without cultivation. A standard pear tree strikes its roots down deep, and may endure neglect and yet give good crops of fruit, but the quince roots, on which the pear is dwarfed, are surface feeders, and cannot thrive without good tillage.

(3) *Lack of Manure*. Here is a common fault with all orchards, and the pear is perhaps more often neglected than the apple or the peach: as a standard, it will endure much abuse and neglect, yet succeed fairly well. The dwarf, however, is different. Its quince roots do not reach out very far to collect nourishment, and unless the soil about the tree is both well cultivated and made rich in fertility, little result may be expected in fruitfulness.

C. S. Mills, of Allegan Co., Michigan, has a fine dwarf pear orchard of 1200 trees, a great commercial success. He speaks as follows on this question of cultivation and manure:

"Plow up to the trees in the Fall, and away from them in the Spring; thus the ground is kept nearly level during the working season, and when cold weather comes, the ridging up assists drainage, and also helps protect the tree roots. For the first three years almost any hoed or cultivated crop may be grown among the trees; after that, they should have all the ground to themselves—

with regular harrowings up to about August 1st. At the last cultivation, oats, Crimson clover, or some other green crop may be sown to hold the ground and plow under in the Spring: One word as to plowing: do it either before the trees blossom, or after; never work the ground when the trees are in blossom.

"The manure question is one that every pear grower has his own notion about. Most growers believe that stable manure is bad for pear trees—that it causes the blight—that the trees must be kept back rather than pushed along. Such is not my idea. For ten successive years these trees had a good warm coat of strawy manure applied in the fall or early winter. For the last six years they have had nothing. Blight has bothered us but little, in all this time. But the trees grew, and are still growing; what's more, they bore young, and are still bearing."

(4) *Neglect of Pruning* is another serious mistake of dwarf pear growers; or if they prune it is without a system, or indeed any definite idea of form or symmetry. A dwarf tree under such treatment soon grows too high, and when laden with fruit soon breaks off at the point of union. Proper treatment of a dwarf demands annual and vigorous cutting back of all new wood if over a foot in length. The idea in mind for a dwarf pear should be pyramidal, thus causing all the heavier branches to grow near the ground, and the fruit to be within reach.

Figure 1808 gives a good idea of the general form which we should aim at in pruning our dwarf pears, and should be persistently carried out.

(5) *Unprofitable Varieties* are another cause of failure. The Bartlett, for example, is not a success as a dwarf; while on the other hand the finest Duchess, Anjou, Clairegeau and Louis Bonne, grow on dwarf stock.—

These last are four varieties which seem to take with our English relations, and should be the chief varieties now planted for



FIG. 1808.

export. As will be seen from Prof. Robertson's report, A No. 1 pears,  $2\frac{1}{2}$  and 3 inches in diameter, brought as high at \$1.40 per case or about 20 lbs., or the equivalent of about \$14 per barrel, for those which arrived in good condition. The great question is

how to control the temperature of the ship in transit; and if once we are guaranteed that the temperature will be kept between  $34^{\circ}$  and  $40^{\circ}$ , for example, we can grow pears for the English market with confidence of great profit.

## TREATMENT FOR SAN JOSE SCALE.



SERIES of meetings of fruit growers has been held in various parts of the Niagara District to consider the modes of treatment of orchards for destruction of the scale. At Grimsby the meeting was presided over by Mr. M. Pettit, of Winona, who gave an outline of the measures already adopted by the Department to cope with this pest.

Prof. Fletcher, of Ottawa, gave some details concerning the terrible nature of the scale, and advocated treatment with whale oil soap as better than either kerosene or crude petroleum. This soap is made from caustic potash and fish oil, and is used in the proportion of two pounds to one gallon of water. The cost of treatment would not exceed 10 cents a tree in an orchard of ordinary sized trees.

Prof. Owen, of Catawba Island, Ohio, said that in his experience the *whale oil soap* was quite effective even on its first application, and after four years' treatment orchards were 20 per cent. more healthy and vigorous than when treatment was begun. Indeed the whale oil soap seemed to be in a measure a fungicide as well as an insecticide, destroying the aphids, preventing leaf-curl of the peach, and so clearing the trees of fungi, that the fruit on treated trees attained a larger size than on those untreated. The cost of treatment—ten cents a tree—

was a good investment, often paying 500 per cent.

*The time to treat* with whale oil soap is in the spring, during a period of two or three weeks, from the time the buds begin to swell until out in bloom. One good treatment at this time is usually considered enough.

*The method of treatment* is to get large wagon tanks and put a good pump at the back; the driver stands on a platform at the rear and does the pumping; two lines of hose are used, with which about 150 trees per diem can be treated. Of course every inch of the wood must be covered.

*The Cherry aphid* may be destroyed with this soap, which will, in certain seasons, be a great boon to cherry growers.

In the *preparation* of the mixture, first heat the water in a large agricultural boiler, holding say one barrel of water, then when boiling add the soap. If possible apply it hot.

After many questions had been put by the audience and answered, the following resolution was unanimously agreed upon, and ordered to be forwarded to the Ontario Minister of Agriculture, viz. :

"That in the opinion of this meeting the Government should in every way possible encourage the treatment of trees, infested by the San Jose Scale, the Black Aphid or Curl Leaf, by the application of whale oil soap or other approved remedies; also that the inspection of orchards as hitherto practised be continued."

## OUR FRUIT IMPORTS.

STATEMENT SHOWING THE VALUE OF THE UNDER NAMED FRUITS ENTERED FOR CONSUMPTION IN CANADA DURING THE YEARS NAMED.

FRUIT—GREEN.	1890	1891	1892	1893	1894	
	\$	\$	\$	\$	\$	
Apples .....	239,332	55,118	80,369	35,165	50,526	
Berries—Straw., Rasp., etc.....	*72,399	34,280	33,463	32,923	46,751	
Cherries.....	8,033	12,369	11,996	11,464	9,616	
Cranberries .....	228	26,905	41,735	29,363	49,131	
Currants .....	492	83	680	35	27	
Grapes .....	79,009	79,452	69,975	70,207	77,101	
Oranges and Lemons .....	456,248	670,127	626,453	555,363	774,612	
Peaches .....	†107,636	32,039	80,768	61,982	66,764	
Plums.....	‡24,582	21,219	24,184	20,286	30,315	
Other dutiables.....	66,578	43,332	75,191	65,364	943	
Quincies .....	1,882	1,275	1,287	1,274	73,942	
Blue and other wild berries.....	include above	1,995	137	2,781	1,473	
Bananas.....	271,445	324,790	298,080	437,181	504,331	
Pines.....	53,145	68,873	59,282	67,998	89,081	
Guavas .....		576	509	720	973	
Olives and Apricots .....		13	\$75,250			
Raisins.....	402,869	427,997	329,311	311,409	326,939	
Filberts and Walnuts .....	65,089	142,531	130,959	139,095	130,144	
Total value of all fruits imported.	Dutiable.....	Not given in 1890, 1891, 1892.			1,817,450	2,102,099
	Free .....				508,680	595,868
	Total .....				2,326,130	2,697,967

\* Includes Cranberries. † \$105,330, imported free of duty. ‡ \$23,363, imported free of duty.

§ There is something wrong in this. They were free, and probably bananas make up the most of the \$75,000.

FRUIT—GREEN.	1895	1896	1897	1898	1899	
	\$	\$	\$	\$	\$	
Apples .....	46,554	52,134	36,974	76,750	39,238	
Berries—Straw., Rasp., etc.....	47,987	32,909	63,528	57,956	83,790	
Cherries.....	9,767	7,626	8,609	9,342	12,332	
Cranberries .....	9,979	32,286	19,118	18,798	36,400	
Currants .....	59	256	546	71	18	
Grapes .....	56,118	65,184	47,681	56,020	51,841	
Oranges and Lemons .....	749,264	652,150	592,138	687,966	799,958	
Peaches .....	38,092	99,565	52,166	43,424	66,526	
Plums.....	22,688	26,181	24,131	26,101	28,824	
Other dutiables.....	60,838	54,066	45,387	56,508	49,178	
Quincies .....	487	590	394	356	276	
Blue and other wild berries .....	963	477	563	636	425	
Bananas.....	470,457	489,812	402,121	460,450	513,250	
Pines.....	62,456	52,471	73,046	47,197	51,371	
Guavas.....	872	477	373	2,960	425	
Olives and Apricots .....						
Raisins.....	353,631	330,760	327,509	404,937	412,168	
Filberts and Walnuts .....	116,022	121,493	110,245	127,627	172,229	
Total value of all fruits imported.	Dutiable.....	1,949,102	2,012,337	1,754,803	2,239,023	2,469,853
	Free .....	535,248	476,103	476,103	510,855	566,707
	Total .....	2,484,350	2,554,272	2,230,906	2,749,878	3,036,565

OUR FRUIT IMPORTS.

I hope the preceding will be useful to your readers. I have excluded dried fruits, except raisins and nuts, because we do not produce them, with only an exception as to apples, pears, peaches and apricots, and these are not given, except apples, which are not of any large amount. Nuts are included because we are able to grow them, and ought, to while we might try raisins.

All our green fruit is imported from the United States, except grapes, oranges and apples.

Curiously enough we have brought apples from Australia. Thus in 1895 the importation was \$1,277; 1896, \$4,509; 1897, \$976; 1898, \$0; 1899, \$0.

This year we have had the first direct importation of oranges from Jamaica into Ottawa.

It is peculiar that we are prepared to pay for taking oranges and lemons to England and then freight them back.

We import of this fruit from—

	G. B.	U. S.	B. W. I.	Foreign W. I.	Spain.	Japan.	Italy.	Australia.
1895 . . . .	\$93,928	\$376,166	\$3,464	\$878	\$6,596	\$2,316	\$257,160	\$2,874
1896 . . . .	165,137	330,760	6,541	456	6,325	2,982	150,527	1,137
1897 . . . .	115,335	306,871	6,728	124	....	....	144,207	....
1898 . . . .	73,174	439,206	14,171	180	....	5,031	137,535	1,963
1899 . . . .	93,800	473,194	15,570	117	4,080	3,811	205,853	1,603

As to the grapes which are imported from England and other countries other than the United States are Malagas, and are not grown here. Of those from the United States it is impossible to tell what part is competitor against our own grapes. However, the record is this way ;

	G. B.	U. S.		G. B.	U. S.
1890 . . . . .	\$31,331	\$47,503	1895 . . . . .	29,711	26,068
1891 . . . . .	32,847	46,413	1896 . . . . .	35,577	29,007
1892 . . . . .	29,175	38,610	1897 . . . . .	20,393	26,671
1893 . . . . .	31,979	38,146	1898 . . . . .	21,130	34,097
1894 . . . . .	36,181	40,830	1999 . . . . .	23,226	27,501

It would appear that notwithstanding the general growth of trade, the importation of grapes is not growing, and perhaps means we are supplying our own market more fully than "has been."

Ottawa.

G. H. FAWCETT.

IN GERMANY certain restrictions have been put upon the importation of American fruit owing to the San Jose Scale scare. Prof. L. Reh, of Hamburg, has conducted a number of experiments for the purpose of determining the danger from the packing of imported fruit, with the general result that living scales were very seldom found in such ma-

terial. Experiments were also instituted to determine how long the scale insects would live when removed from the fruit and carefully transported to other fruit or to other situations. The experiments indicate that death usually results within a short period after such removal.

## THE EXPORT OF TENDER FRUITS.

**W**E regret that the trial shipments of tender fruits which have been conducted for the last year by the Department of Agriculture at Ottawa are to be discontinued at the present time. We are aware that the Paris Exposition is important, but to us it is not nearly as important as the extension of the markets for our grapes, peaches, pears and summer apples. Even the shippers at Grimsby who have furnished the fruit for the three years past are not confident enough in present conditions to continue the work on their own account, for while some shipments have sold splendidly others have been spoiled in transit, and the total result of the season has always been loss. Fortunately for the shippers the Department guaranteed them the market price at home, a bare return however for the time and expense of such careful selection and packing.

Just one thing is lacking, and, that granted, the fruit growers of the province would begin exporting these fruits at their own risk, viz.: *a guarantee of safe carriage within certain limits of temperature.* Hoping to secure this for the public benefit we called a meeting of growers who have been concerned in previous shipments to discuss the situation. The following resolution was agreed upon and forwarded to the Hon. Sidney Fisher, viz.:

*Resolved,* that this committee desire to express to the Minister of Agriculture, The Hon. Sydney Fisher, their high appreciation of the efforts made by his department in the way of experimental shipments of fruit during the past three years; but they would exceedingly regret the discontinuance of these efforts to introduce our fruits into the English markets at the present time. They would humbly request that the department would

still further encourage the development of the export trade in tender fruits by guaranteeing safe carriage of the same within certain degrees of temperature, and in a compartment especially prepared for the carriage of fruit only.

They would further request a personal interview with Mr. Grindley and with Mr. Robertson to consider details of methods of operation.

The following extract from the American Agriculturist gives the experience of a writer in cold storage of some of these fruits, and may help us in determining the proper temperature for the ocean transport.

"Beginning with plums; those varieties that are more firm, not so juicy to begin with, and ripen slowly, are the ones that keep the best. The most desirable temperature for plums is 34 degrees. They will keep well for two or three weeks, and then they begin to decay. They seem to deteriorate about the stone and go very quickly, so that two or three weeks is as long as they should be kept in cold storage. The main object in storing fruit of this character is simply to keep them long enough to avoid gluts in the market, and to that end only can cold storage be used in storing plums, peaches, cherries, etc. Peaches do best at a temperature of about 38 degrees. There is no fruit more tender and that should be more carefully handled than the peach.

"The temperature for pears is from 38 to 40 degrees for fall, and from 34 to 35 degrees for winter pears. The varieties which have large cores seem to keep best. The Vicar and Winter Nelis keep in very good condition for two or three months. There is a tendency in pears to decay about the core while the outside may look well.

"With most varieties of apples, the temperature should be kept as nearly as possible at 32 degrees in a dry atmosphere; that is, an atmosphere that is not moist enough to aid fungous growth. Some varieties cannot be submitted to so low a temperature, and it is still an experiment as to just the exact temperature for the different varieties. Jonathans, for instance, if stored in a temperature of 32 degrees, in nearly every case have tended to produce what is known as scald. In picking apples for cold storage, those fruits keep the best that are not too ripe—they should be just a trifle green. Use only perfect fruit, sorted properly, graded well and packed carefully."

But the difficulty is to get a temperature guaranteed on ship board, or if guaranteed, to be honestly kept.



## ASPARAGUS BEETLES.



AMONG the recent arrivals of new insect pests in Ontario are two small beetles which have done harm both in Europe and the eastern United States. That these beetles are capable of doing much damage to beds of asparagus may be seen from a study of the records of their depredations in the United States. Six years after the arrival of the first beetle—the common asparagus beetle—the loss in Queen's Co., N. Y., alone in one year amounted to \$50,000, and frequently since asparagus crops have suffered severely in many of the infested sections of New England and the northern central states. Not only were the marketable beds badly injured, but the new beds also were seriously attacked, and in many cases destroyed. Illustrations of these two beetles are to be found on page 35 of the Agricultural College Report just issued.

In 1898 the asparagus beetles reached the American side of the Niagara River, and it was then predicted that the Niagara region of Ontario would soon feel the effects of the invasion. Sure enough, the beetles appeared in several localities as far west as St. Catharines in the spring of 1899, and their presence may be confidently expected in asparagus gardens over a still wider area in the spring of 1900.

The two beetles which feed on asparagus shoots are quite unlike in color: the common asparagus beetle (*Crioceris asparagi*) has steel-blue wing-covers, marked with lemon-colored splashes, and bordered with the same color, while the 12-spotted asparagus beetle (*C. 12-punctata*) has orange-red wing-covers, each marked with six black spots. The grubs of the two species are even more unlike than the adults are. The grub of the former is dark grey in color, while that of the latter is orange, and on ac-

count of its color resembles the grub of the Colorado beetle.

The habits and life history of the common asparagus beetle are much better known than those of the 12-spotted species. The eggs are laid soon after the appearance of the beetle in the early spring, usually on the stalks of the new shoots. They stand out at right angles to the stalk, are about one-twelfth of an inch long, and of a dark brown color. The grubs, which hatch from the eggs in about a week, feed upon the young succulent shoots for about two weeks, when they descend into the ground, and change into pupae within dirty cocoons. In another week or ten days the full fledged beetle emerges to lay eggs for another brood. Thus it will be seen that the common asparagus beetle completes its life history (from the deposition of the eggs on the stalks to the time the adult beetle appears) in about four weeks or one month.

In the case of the 12-spotted asparagus beetle, the eggs have been seldom seen, and the habits of the young grubs are not therefore understood. It is supposed, however, that the grub feeds during a part of its existence in the berry, and descends to the ground to pupate. In Europe it is said to pass the winter in the pupal condition.

REMEDIAL TREATMENTS.—A very important point to remember in the fight against the asparagus beetles is the destruction of all stray and volunteer asparagus plants in the neighborhood of the beds. If this is done the beetles cannot deposit eggs on plants outside of the beds, and no infestation of the beds can take place from this source.

Another important point is the spraying of the beds twice or three times after the cutting season with Paris green, for if the late broods are neglected and permitted to in-

crease, then the number of beetles wintering over will be large and the damage to the spring shoots will be serious.

There are two or three practicable remedies for the prevention of the destruction of the shoots by the grubs of the beetle: 1. Cut all asparagus plants about the first of May and cut the new shoots regularly every few days. By the adoption of this plan the beetles are forced to lay their eggs on the new shoots, and as those are cut every few days further development of the grubs is prevented. 2. Permit some of the shoots to grow as traps upon which the beetles may lay their eggs, but destroy these every week and allow other stalks to act as traps to take their place. In this way the beetles are not allowed to develop, with the result that their numbers will decrease as the season advances.

It is very important that these new arrivals be well looked after, and prevented from spreading to other counties from Lincoln and Welland. From a study of the spread of the common asparagus beetle it would appear that it has followed the water ways into the interior of the country, although it has undoubtedly been distributed occasion-

ally by ordinary commercial means, viz., by railways, nursery stock, etc. Moreover, it is more likely to spread westward along the shore of Lake Erie than eastward along the shore of Lake Ontario, for the same climatic reason that the San Jose Scale takes more kindly to the Lake Erie counties than to the Lake Ontario counties.

In conclusion, two very interesting features may be mentioned in connection with the invasion of the Province by these asparagus beetles: 1. The two species have arrived at the said time, although the common asparagus beetle reached the United States twenty-five years before the 12-spotted species, and, as a rule, the former species has preceded the 12-spotted in the invasion of the States to the south of us; and 2. The 12-spotted species was the more abundant form last season in the Niagara district. Every report dealing with the depredations of the two species in the United States makes the assertion that the common form was always the more destructive and abundant.

WM. LOCHHEAD,  
Professor of Biology.

Ontario Agricultural College,  
Guelph, April 20, 1900.

JAPAN PLUMS.—Mr. C. M. Hooker, of New York, recently sent a lot of cold-storage Duchess pears to London, which returned \$13 to \$14 per barrel. The Japan plum, Wickson, is reaping golden opinions on the shores of Seneca Lake, N. Y. Some extra fine fruit produced by heavy thinning brought \$3 per 15-pound case in New York city, or \$12 per bushel, when Lombards were bringing but 50 cents per bushel. The Wickson has had the reputation of being a shy bearer, and Mr. Willard has hitherto

condemned it for that reason. He has now more faith in its productiveness. Red June and Burbank are the best market varieties of Japan plums for this section. Abundance is of fine quality, but not as good a shipper as the other two. Canned Burbanks are second in quality only to Reine Claude and French Prune. October Purple has been a disappointment to most growers thus far. All Japan plums need heavy thinning to be of good size. Thinning also lessens the rot. *Country Gentleman.*



## ANNUAL FLOWERS.

**I**T is the object of this paper to give a few hints on the cultivation of annual flowers, especially to those who are not much accustomed to grow them. We, as farmers, do not pay enough attention to the cultivation of flowers and beautifying our homes. We are apt to get into the narrow rut of growing only what can be sold or eaten. We do not therefore enjoy



FIG. 1809. ASTER.

rural life to the full extent of our privileges. You say the farmer has no time to grow flowers; you forget that he takes time to grow anything he specially desires, and that the most successful farmers are those who have the most to do; they are also the ones that usually grow the most flowers.

More attention has recently been devoted to annual flowers, and many improved kinds are being introduced every year. In selecting varieties you must choose those best suited to your special location and requirements. Perhaps the most important con-

sideration is to select the kinds you love most. To be successful in the cultivation of flowers, you must have a love for them. It is best not to grow too many kinds at first. It is wonderful how our love for them will grow when we begin their culture. In the following notes I will refer to some of the most common and easily grown sorts, giving such hints as may be helpful to the beginner. If we want early flowers, it is best to start a part of our seeds in boxes in the house. For this purpose I make boxes any convenient length and width desired, usually about twelve by twenty inches and four inches deep, leaving cracks in the bottom for thorough drainage. Fill the box about two and a half inches deep with good fine rich soil. Any good garden soil will answer, but a compost of well rotted cow manure and sods is best. If the soil is of a heavy or sticky texture, mix in one-third sharp plastering sand; this should be put through a coarse sieve, using the coarse material that will not go through the sieve in the bottom of the box and fine soil on top, in which to plant the seeds. After leveling the soil in the box, take a brick and firm it down a little. Take a piece of lath a half

inch shorter than the width of the box inside, bevel off one edge V shaped, with this sharp edge make the little drill in which to sow the seeds, and use the other edge to cover them by pushing the soil in from either side and firming it down well immediately over the seeds. Several kinds may be planted in the same box. Put the drills about one and a half inches apart and sow quite thin. The firmer the seed the less soil should be used in covering. Nasturtiums may be planted to the depth of one inch, while pansies, verbenas, asters, dianthus, phlox drummondii, etc., should not be covered with more than a quarter of an inch of soil.

ASTERS for early flowering should be sown in the house early in April, when two inches high transplant to small pots, or flats, three inches apart each way. They are quite hardy, and can be transplanted to the garden when the peach trees are in bloom. They make better plants by transplanting once or twice rather than sowing the seed where they are to remain. In good soil the plants should stand twelve to eighteen inches apart. For later bloom, plant seed out doors as soon as the trees are out in leaf. Thoroughly cultivate the soil among the plants, and when they are nicely in bud give a mulch of coarce manure, cut straw or lawn clippings. This will keep the soil cool and moist during the hot weather, which is necessary if you want the best flowers.

DIANTHUS—hardy biennial, that flowers freely the first season, and gives a wonderful variety of colors. Seeds may be planted and young plants treated as indicated above for asters. When planting where they are to remain, they should stand ten or twelve inches apart. But few flowers give such satisfactory results for the small amount of labor required to grow them.

NASTURTIIUMS—These old garden favorites have been so much improved of late that they are now fully entitled to a place in

the same rank with asters, pansies and sweet peas. The seed can be planted where they are to remain as soon as the soil is dry enough to work in spring. I prefer to plant a few seed for early bloom in small pots in the house. One seed in a pot, planted the last of March or early in April. But few flowers will continue to give such a quantity of bright bloom during the hot dry weather of midsummer as the nasturtium. The seed should be planted one inch deep, and the soil pressed over them firmly to insure good germination. The tall growing sorts should have a trellis for best effect. They also do nicely trailing on the ground, if planted about two feet apart, for trellis, eight to twelve inches. The Tom Thumb or dwarf growing varieties are best for beds or borders. They succeed in any good garden soil, and are as easily grown as a potato. They should be planted twelve to fifteen inches apart. If they are planted too close they are apt to rot off during wet weather.

PANSIES require a cool moist situation for best results, rather strong clay loam is preferable, but they will succeed on any good garden soil. The large flowered varieties will not stand so well during the hot dry weather of midsummer as the medium sized kinds. Sow seed as early in spring as the soil will permit. These will bloom freely during the latter part of summer and fall. All blooms should be kept cut off as they begin to fade. If they are allowed to seed they soon become exhausted. After blooming for a considerable length of time the plants make long straggling branches, these should be cut off from time to time, which induces new branches to grow from near the base of the plant, and thus prolong its usefulness. By giving the plants a mulch of coarse manure leaves or straw when the ground freezes, they will produce a wonderful profusion of bloom early the following spring.

PETUNIAS --To grow the better kinds of

these old favorite flowers it is best to sow the seeds during April in shallow boxes in the house. The seed is so small that it must not be covered more than one eighth of an inch for best results. Transplant as soon as the young plants are large enough, to small pots or flats. When planted where they are to remain they should be at least two feet apart each way. It is better, however, to plant more thickly, and when the plants come into bloom weed out the poorest plants. There is always some poor kinds will come from the seed of the very best strains we can get.

**PHLOX DRUMMONDII**—Sow the seed as early in spring as the soil can be worked, not more than one quarter of an inch deep, when the young plants are about two inches high transplant where they are to remain, setting them ten to twelve inches apart.

**SWEET PEAS**—Sow as early as the soil can be worked in trenches four inches deep and two or three inches apart. Cover two inches deep, working in the balance of the soil gradually as the plants grow. When they are four or five inches high they should have a trellis of poultry netting, brush or twine. To get the best results they require a well drained rich clay loam and thorough

cultivation until they are a foot in height, then mulch with coarse manure or straw.

**VERBENAS**—Sow seed early in April in boxes, and transplant as soon as they have made three or four leaves to small pots or flats, and, when the trees are starting out in leaf, plant out of doors twelve to eighteen inches apart.

To grow good annuals the soil should be made rich and given thorough cultivation. Water with the rake, in other words cultivate often by stirring the soil frequently with the garden rake. This prevents the soil from drying out. Do not wait for the weeds to grow, but rake over the soil at least two or three times a week in dry weather. It can be done more quickly than watering and gives better results.

In case the soil should become too dry in case of a long drought, water thoroughly at night. The soil should be saturated to the depth of a foot. Next morning, as soon as it can be stirred without cleaving together, use the rake again. If this method is properly followed up you will not require to water very often, even during a dry summer, and you will get splendid results.

W. W. HILBORN.

Leamington, Ont.

## AN EXQUISITE SHRUB.

F THE Spireas there are many; some are shrubby, some herbaceous, some bloom early and some later. Their blossoms vary in color and form. Their foliage is commonly interesting.

The Spirea Thunbergii is not much known. It is a dwarfish elegant grower. Its beautiful light green foliage comes very early, and is almost linear. This narrow foliage upon its fine slender branches is a very suitable and elegant addition to a bouquet the season through.

As autumn approaches the leaves assume many golden scarlet and bronze colors, and there remain for weeks and weeks exquisitely beautiful. Many trees and shrubs take on beautiful colors for a few days, then we see bare poles. The very early scattered white flowers of the Thunbergii are very nice but are not remarkable.

The coming flower lovers will plant a clump of Spirea Thunbergii in their beds of shrubs or flowers.

Niagara Falls South.

E. MORDEN.

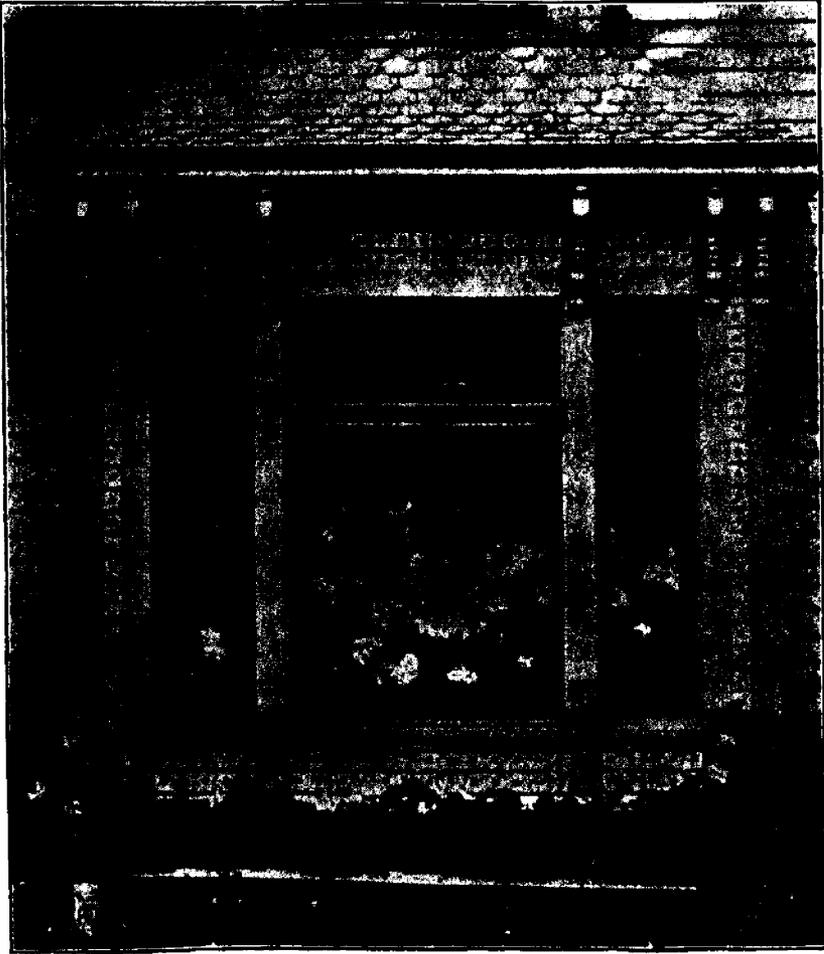


FIG. 1810. WINDOW GARDEN.

## TIMELY TOPICS FOR THE AMATEUR—III.

**T**HE month of May is often spoken of as the "merry month of May," doubtless deriving this pleasing appellation from the fact that "May" blossoms and bright spring weather usually make their more than welcome appearance during this, the first real spring month of the year—compelling us by their brightness to forget the customary vicissitudes of April weather, and the long months

of winter, past and gone. The routine of garden work in May and early June depends perhaps more on the prevailing temperature than during any month of the year, at least so far as tender plants are concerned; as the trying ordeal now takes place of transferring most of these plants from their winter quarters to the vagaries of spring weather out of doors. Care must be exercised in exposing plants of tender growth too ab-

ruptly to outdoor life. Stand the plants outside for a week or two if possible, to harden, before planting them out in the ground, and don't hurry the plants out of the greenhouse unless the weather is favorable, especially coleus and tender plants. Weather conditions, and not the calendar, must govern these and similar operations in the garden at all times, for often

"Undue haste brings woeful waste."

**THE GREENHOUSE**—Shading must be put on much heavier now than before for palms, ferns and similar plants. Palms, cordylines, etc., succeed best stood out of doors on the north side of a building during the hot summer months; stand on a piece of slate or shingle, this will prevent worms getting into the pot and choking the drainage. This applies to all plants stood outside.

Exotic ferns should be kept in the greenhouse during summer, keep them well watered and the floor well dampened. Tree ferns, especially the Australian varieties, do well stood outside during July and August, but they must have a well shaded, sheltered position, and an occasional spraying.

Top ventilators may perhaps be left open slightly at night if the weather is warm, it will help to harden off the bedding plants. The hardier class of bedding plants, such as geraniums, petunias, verbenas, etc., may be stood outside toward the end of the month, previous to being planted out later on. Coleus and tender plants are safer in the house for a week or so.

Hydrangeas, oleanders, and similar half-hardy plants may be stood outside. Water must be given liberally to all growing plants. Syringe in the afternoon, and close ventilators early, if the weather is cool; early afternoon syringing and closing keeps down red spider. Syringe lightly, heavy syringing damages the bloom, fancy pelargoniums being particularly opposed to syringing; these latter like a cool temperature and



FIG. 1811. CARNATION.

plenty of air, day and night if possible, and plenty of water at the roots.

Gloxinias and tuberous begonias should be well started by now, and when well rooted they will require plenty of water; shade well, but syringe them very seldom, if at all. A moist atmosphere, caused by damping the floors often, is better than syringing. Early morning is the best time for watering plants at this season of the year, late evening watering is not advisable just yet, as chilly nights, with oftentimes no fire heat, induces mildew, damping off and other evils, if late watering is indulged in.

Chrysanthemums in pots that are to be grown outside during summer, may be stood outside now; it may apparently check them some, but less growth is much better than weak, spindled growth, induced by a high temperature. These plants may have their final potting as early as possible into the pots they are to flower in; use a rich loam and pot firmly; if bushy plants are required pinch the tips of the shoots off every week or two until July.

Carnations may be planted outside in the borders early in June, or even earlier than that, if fall and winter flower is required;



FIG. 1812. PRIMULA OBCONICA.

pinch the tips of the long growth off, continue this pinching until July, you will have more bloom than if they are left to grow as they please.

Cuttings of young growth of *Aloysia citrodora* (lemon verbena) will strike readily if inserted in sand.

Shade fuchsias, and syringe them frequently; fuchsias succeed best stood outside in summer, on the north side of a fence or building.

Pot off seedling primulas and cyclamens singly in small pots; if the plants are very small and crowded, transplant them into shallow boxes or pans until high enough for potting; shade and give them plenty of air, especially the cyclamens.

*Primula obconica* makes a nice greenhouse plant.

Fancy caladiums should be started in sand, if they are not already under way; when roots and growth are about an inch in length, put them into well drained pots large enough for them to grow in all summer; put the bulb just under the surface of the soil, they require a light compost, equal parts loam, leaf soil and sand will suit them; water sparingly until well rooted, then water liberally. Keep them in the greenhouse all summer, they like heat, shade, and a

moist atmosphere. These caladiums are very beautiful plants when well grown.

Secure a plant or some cuttings of *Plumbago capensis*, its pretty lavender blue flowers, and its easy culture, make it one of our most desirable greenhouse plants; it will stand outside in a shaded position during summer.

The new begonia, *Haageana*, promises to be a useful addition to this beautiful class of plants.

Azaleas, Eupatoriums, and all hard wooded plants may be stood outside in June in partially shaded positions.

Genistas do better planted out in the open border.

Divide old plants of violets, and pot divisions into 4 or 5 inch pots, plunge pot and all outside in partial shade, and give plenty of water all summer.

The new violet, "Princess of Wales," is a grand acquisition to these sweetly perfumed favorites. The flower is very large,



FIG. 1813. BEGONIA, HAAGEANA.

has a long stem, is a deep rich blue in color, very fragrant, and a robust grower.

**WINDOW PLANTS**—If fuchsias commence to drop their leaves, red spider is likely causing the trouble; syringe the plants often; if these little pests are very numerous, take the plant, if not too large, turn it upside down and plunge the plant, not the pot, into a tub of clear cool water, hold it there a minute or two, as the red spider dislikes water, and repeat the process every few days if required. A few nice stocky geraniums well established in 4 inch pots may be potted into 6 inch pots, in good rich, loamy soil, plunge pot up to the rim outside in the open border in June; pinch the tips of the leading shoots out about every two weeks until July, and keep the flower stems closely picked off as soon as they appear until September, then let them flower; take them in before frost. By this method you will secure bushy plants and lots of flowers in autumn and winter. *Le Pilote*, scarlet; *Hermine*, white, and *Corinne*, double flowering bronze, are three good varieties. Fragrant geraniums succeed well treated in this way, the lemon scented variety being perhaps the best. The East Lothian stock makes a good window plant. A plant of

the perennial *tropeolum*, *Boule de Feu*, will make a grand climber for the window in summer or winter; give it rich soil, plenty of root room and water. This variety of the *tropeolum*, with its profuse and dazzling scarlet blossoms, makes a grand display in any place suitable for it to grow in. Cactus should be repotted if they require it, but don't overpot them; equal quantities of

loam and sand, with plenty of drainage, suits these plants best; water them seldom, especially just after repotting. Calla lilies may be planted out in the garden in June in a slightly shaded position. Water all plants thoroughly when required, and on fine warm days.

**FLOWER GARDEN**—Finish forking up beds and borders and transplanting annuals, etc., from frames. Thrip, green fly, and the rose worm or grub, will soon commence their attacks on out-door roses, the two former can be kept down by an early application of tobacco water sprinkled on the plants, or spread some tobacco stems under the plants; if this is commenced early enough you can keep these pests in check. Hellebore powder, or a weak solution of Paris green water, applied once or twice about the time the first buds appear, will destroy the rose grub. Dutch and other bulbs that are out of flower may be taken from the beds, lay them in flat



FIG. 1815. SPIKE OF EAST  
LOTHIAN STOCK.



FIG. 1814. TULIP.

shallow boxes mixed with a little soil, leave them out under a fence or trees until fall; look them over occasionally, as the wood lice are very partial to them, especially hyacinths. Commence bedding out geraniums and the hardiest of the plants about the end of the month, leave coleus, caladiums, and cannas a little longer. A bed of tea roses gives good results, especially on light soil; plant in June, get large plants if you can. Etoile de Lyon, Marion Dingee, and the profuse blooming dwarf Clothilde Soupert, for an edging, makes a good selection; if another variety and color is wanted, the little pink Hermosa will give grand results. Give water to beds early in the day at this season of the year.

**FRUIT GARDEN**—All planting except perhaps strawberries should be finished before this time. Keep the hoe and cultivator busy. Watch out for caterpillars on gooseberry bushes; dry Hellebore sprinkled lightly on the leaves early in the morning will destroy these voracious creatures. A weak solution of Paris green water is efficacious, this should not be applied after the currants are of any size. I find Bordeaux mixture

sticks to the fruit, and spoils the appearance of gooseberries and currants. Spray plum, pear and apple trees after the bloom has fallen with Bordeaux mixture.

**VEGETABLE GARDEN**—Onions transplanted from hot beds, and all growing crops, will require a light surface stirring of the soil; one hour's work now with the scuffle or Dutch hoe will save many times over the labor if left until later. The main crop of carrots and beets may be sown. The main crop of potatoes should be planted about the end of May. Plant second early cabbage—Henderson's Summer is a good variety for second early. Sow seeds of savoy and late cabbage and cauliflower early in May in the open ground. A late sowing of peas and beans may perhaps give you good results if the weather is favorable. Plant out leeks as soon as large enough, in shallow trenches prepared the same as for celery. Transplant small celery plants from seed beds or boxes into cold frames; shade and water them well.

Hamilton.

HORTUS.

NOTE.—It will be necessary to make some allowance for dates given, as this article is written for southern Ontario

## EVERGREENS.

**E**VERGREENS are used for hedges, wind-breaks and for lawn purposes. Very few farms can be found which do not need wind-breaks, especially in winter. Those who do not feel able to plant rows to protect their fields should at least arrange to shelter their buildings. Hedges may be made to answer as fences and low wind-breaks. They are beautiful as well as useful. Norway spruce is largely used for wind-breaks and hedges; it is cheap and hardy. Arbor Vitae or white cedar is especially suitable for hedges; the

roots are fibrous and bear transplanting very well. Norway spruce and other evergreens can be handled with more ease and safety when small. This is true of trees and shrubs generally, but it will take years of patient teaching to get planters to generally act upon this idea.

Scotch pine grows with great rapidity and soon makes a wind-break or a large single specimen. Austrian pine is smaller; both have coarse strong needles as foliage. White spruce is a rapid grower and should be more used. Black Hills spruce is a slower grow-

er, forms a compact head, has a fine dark foliage, and will be largely planted wherever it is known. Colorado blue spruce is similar in growth, and its average colors are much finer than Norway spruce. Occasional samples possess what we call a very bright blue tint and are sold at higher prices.

The young growth of Douglas spruce is very pretty, and when established the trees are rampant growers. Concolor spruce is unique in appearance, its foliage looks strong but has a soft feel.

Colorado Blue, Concolor and Douglas spruces are hardy rocky mountain evergreens that have a bright future. Until recently they were high priced. At present they are quite within the reach of any one who has room for a few hardy novel and beautiful evergreens. A short wind-break of Douglas spruce should be a rapid growing novelty in most neighborhoods. The half hardy and rare evergreens are not noticed here.

For lawn purposes the sharp pyramidal

growth of the Irish and Swedish Juniper marks them as very ornamental. The Irish Juniper has a blue green tint in summer but turns brownish in winter. The Swedish Juniper has a peculiar light pea green tint which does not disappear in winter. When the rare beauty of this Juniper becomes known few persons who have room will be without it. The dwarf mountain pine forms a low spreading lawn tree; its foliage is dense, short and pretty.

All of the evergreens mentioned are hardy here. Some of them are somewhat scorched upon their windward sides during cold winters.

Shrubs and evergreens in the lawn as well as the cattle at the barns and the people in the houses will come through in better shape if wind-breaks are provided. Evergreens should be cultivated for a few years,—after that, if the limbs are all allowed to remain, they will commonly care for themselves.

Niagara Falls South. E. MORDEN.

## A CARNATION BED.

“Take the fond heart from its home and its hearth,  
It will sing of the loved to the ends of the earth.”



VERY poor old lady, living in an out-of-the-way corner of the world, all by herself, not long since was found tending her carnations for companionship and memorial of happier days in the far off fader-land. The cottage was old and dilapidated, but her bed of carnations was a rare sight. An old lady, bent and shrunken with age, hobbled to the gate near where these lovely flowers of every shade were joyously blooming.

“Yo lofes de pinks, ma'am?” she asked. “I never saw such beauties before,” was my honest answer. “I lofes you for sayin’ so, gute lady. De pinks are all old Gritchen hafe to make her happy now. She bese all alone, an’ works out all de sor’ow of her

heart in de bed of loffy pinks. I gets hoon-gry to see them in winter. I puts straw an’ carpet heavy to keep the roots warm troo de deep snow. In the spring dey be green and blooming soon, and make my heart glad until frost come again. Dey mind me of de fader-land, when old Gritchen was young, and gather the sweet carnation an’ clove pink to fold in a clean handkerchief to carry to church with Wilhelm; now he be dead, and de gute frein of de fader-land say dey keep carnation on his grave. But in dis strange land nobody will put dem on Gritchen’s grave.” She gathered me a fine bunch, and I was loath to leave the poor old creature in her lonely exile. But I rejoiced that the sweet flower was filling its mission, in a sad and desolate heart. Let us do likewise if sad.

M. A. H.

## THE DAHLIA.



FIG. 1816. MR. JOHN WILSON AMONG HIS DAHLIAS, NAPANEE.

Mr. John Wilson read an interesting paper before the Napanee society on this subject, showing how he had so successfully grown this flower. Mrs. Judge Wilkinson, the president, encloses a photo, showing Mr. Wilson among his favorites, and the following note :

The best bloom of the above photo was in September when one stalk, which grew to six feet, produced at one time fifty-three blossoms and buds ; another, the Queen, grew seven and a half feet high

and had blossoms five inches across. Mr. Wilson attributes this great success to good drainage, rich soil and plenty of water, and the following is his method of growing : He starts the roots as soon as possible after middle of March, in earth in a warm place, leaving from three to five bulbs attached ; when the ground is warm and danger of frost over he digs a trench eighteen inches deep, fills up ten inches with coal ashes, which prevents water accumulating about the roots, then puts over eight inches of soil, measures the trench off and puts in firm stakes three feet apart ; he makes a hole with a spade and puts in layers of well rotted manure, earth and wood ashes, about three handfuls of the latter to a hole and they must not come in contact with the bulbs, puts in started bulbs so that the highest bulb will be covered about an inch ; too deep planting, the ground is too cold ; lets all shoots grow until they are about five inches high, then removes all but the best one and ties it to the stake, when it will branch out like a sunflower. The trench need not be made, just the holes, but the drainage will not be so perfect.

*PRIMULA OBCONICA.* — I think that if I could have but one plant for the house it would be *Primula obconica*. It seems to have all the virtues, and I do not know of an objection. It is neat in habit of growth, the foliage is a rich dark green, and no insect foes attack it, so far as my experience goes. The flowers are peculiarly dainty, a little smaller than the Chinese primrose, about the size of a Phlox blossom, with notch in the centre of each petal. They are borne crown-like on slender stems, a dozen or more in a cluster, about four or five inches

above the leaves. The color is an exquisite pale lavender, changing to white, and the flowers have a delicate perfume. I have a plant which has been in blossom for nearly a year, sometimes having a half dozen flower stalks in bloom at once. It is valuable for cutting, as the flowers last a long time and the buds continue to open ; the long stems make it capable of use for decoration in many ways. It likes a rich soil made light with sand, and good drainage. Give it a moderate amount of water and not too much sunshine.—*Vick's Magazine*.



## 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.

THE photographs illustrating our article regarding Mr. Thos. Beall and his home, were made by Mr. Herbert Beall, his grandson.

NOVA SCOTIA AND NEW BRUNSWICK are to unite in founding a first-class Agricultural College.

MISS ELEANOR A. ORMEROD, the celebrated English Entomologist, whose reports have been so highly appreciated by the public, both in Europe and America, has been given the degree of L. L. D. by Edinburgh University.

A GOOD WINTER RUSSIAN APPLE.—Mrs. Dr. Hoskins sends a sample from a scion top grafted in the doctor's orchard. It has the appearance of being a valuable winter Russian, being above average size and of a beautiful color.

MR. BACON, of Orillia, who was sent out by our association to lecture before quite a number of our societies, writes: "The societies are broadening out beyond individual

benefit in their connection with your association. Nearly every society which I have visited has made a decided advance."

WHALE OIL SOAP has been quite effectually tried in Illinois for the destruction of San Jose scale. It is estimated that 99 per cent. of the San Jose scale in one orchard in which a large number of trees were sprayed was killed by two successive sprayings with whale-oil soap in the fall of 1896 and in the spring of 1897.

IMPORTATION OF NURSERY STOCK.—A bill has been recently passed by the Minister of Agriculture for the Dominion providing for the importation of nursery stock in the month of April, under the restriction of its being fumigated properly at the port of entry. Fumigation houses are immediately to be provided for this purpose.

COLD STORAGE.—The Hon. F. R. Latchford, Minister of Public Works, gave a very

instructive talk on cold storage houses of small cost for the fruit grower, at Grimsby, on Friday, April 6th. A large number of fruit growers were present and all felt convinced that Mr. Latchford thoroughly understood the underlying principles of cold storage.

GILLET'S LYE advertised in these pages is especially commended for use in spraying trees to clean them of fungi and insects. The proportion advised is one package to five gallons of water, but how much a package weighs we are not told. If an article like this would answer the purpose of whale oil soap, which is made of caustic potash and fish oil, it would be more convenient to apply, but this is a question. Probably it would be useful in clearing the cherry trees of the aphid at any rate, and perhaps be a good preparation for routing the oyster shell bark louse.

THE ONTARIO FRUIT GROWERS' ASSOCIATION is sending Mr. Wm. M. Orr, President, a delegate to Ottawa to interview the Minister of Agriculture regarding affording the fruit growers of the province generally better facilities for transporting their pears, peaches and early apples to Great Britain in cold storage. The difficulty is to get proper temperature guaranteed, and until this is afforded none of us can ship with confidence. Another object is to unite with other Associations in asking that the Toronto Industrial Fair be made a Dominion Exhibition in 1901, thus attracting large numbers of the visitors to the Pan American.

JOHN RUSKIN. — Who, among us, that has read *Sesame and Lilies* but has felt a friend's departure in the news of the death of John Ruskin. The Garden thus makes the announcement :

John Ruskin, poet, teacher, reformer and philosopher died at his charming home, Brantwood, Coniston, on Saturday last, in the eighty-first

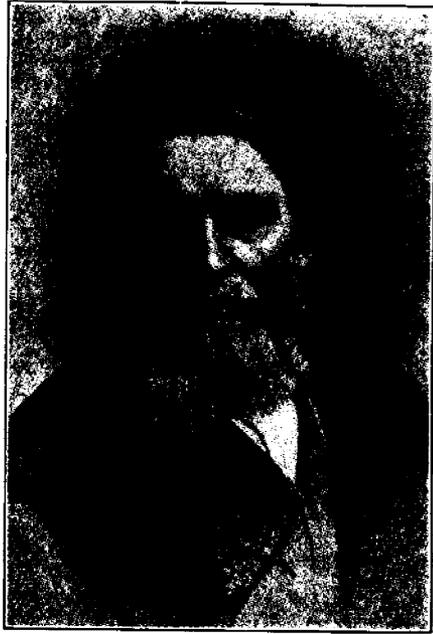


FIG. 1817. THE LATE JOHN RUSKIN.

year of his age. Ruskin strived to reach the high ideals preached in his noble moral essays—earnest messages to the world and master-pieces of English prose. His famous works "*Modern Painters*," "*Stones of Venice*," "*Seven Lamps of Architecture*," "*Fors Clavigera*," "*Unto this Last*," and "*Sesame and Lilies*" are amongst the greatest contributions to the literature of this century. On Thursday, in the churchyard of Coniston, Ruskin was laid to rest, in the beautiful country he loved so well. It was his wish, that if his death occurred in London, to be buried with his father and mother in the churchyard of Shirley, near Croydon, the village of which the Rev. W. Wilks is vicar.

Leaving to others to do justice if they can to Ruskin's genius and its ennobling influence on horticulture as a fine art will you permit me under a deep sense of his sudden loss, to cull a sentence or two from the appreciative notice from the *Scotsman* of Monday on Ruskin's influence on art:—"In his day Ruskin did more for British art than any other man had done. When his first book appeared, British art and taste were fast bound in the traditions of a poor and vulgar conventionalism. It was in much the same condition as poetry had fallen into at an earlier date, and from which it was raised by Coleridge, Scott, and the other great poets of the romantic revival.

"Ruskin led the revival into the realm of art. He woke the nation into a new and finer sense, and a sense of the true and beautiful in form and color. He shook the national taste out of its bondage, purged it of vulgarity, and taught it to see and appreciate the beautiful. The revolution

of taste that has taken place in the last fifty years has not been wholly his work, but he began it, and even those who now refuse to acknowledge him a master, are the fruits of the stimulus which he gave to the love of art and the sense of beauty.

"The great distinction of all Ruskin's writings is their sincerity, or may be called originality. He drew inspiration from men and books, but he gave us no second-hand work. He describes for us what he has seen with his own eyes—never through the eyes of another."



FIG. 1818. R. D. BLACKMORE.

R. D. BLACKMORE.—The Garden also fittingly announces the death of this writer, so popular with us in Canada, that we take the privilege of the extract, of course giving due credit :

This writer of delightful romances—a writer who has told us of the beautiful Devonshire scenery and its flowers in his tale of "Lorna Doone"—passed away on Saturday last at his Teddington home. The English-speaking world is poorer for the loss of this gifted and interesting man, who hid himself from the world and its gaiety in his garden at Teddington, where he cultivated fruits enthusiastically for many years. Pear culture was his favorite hobby, and his assistance for many years as a member (then as chairman) of the fruit committee of the Royal Horticultural Society was of importance. We remember with pleasure Mr. Blackmore's paper upon Vine pests delivered some years ago at a conference, under the auspices of the Royal Horticultural Society, a paper of practical value, brimful of humor and revealing a deep knowledge of the subject. Lovers of gardens, of scenery, and of healthy literature should read Mr. Blackmore's novels, "Lorna Doone," "Cradock Nowell," and

"Perlycross" being among his most interesting productions. Mr. Blackmore was born at Longworth, in Berks, about seventy-five years ago, was educated at Blundell's School Tiverton, and from thence passed to Oxford and to the Bar. "Lorna Doone" shared the fate of many novels as brilliant; it failed to find a publisher until long after it had been written. It is said that eighteen publishers rejected the work, and when it appeared it received scant attention from reviewer and public. Mr. Blackmore attributed the ultimate success of his best known work to the fact that the marriage of Princess Louise to the Marquis of Lorne gave rise to the supposition that the novel was in some way connected with the "Lorne" family. Editions quickly appeared. The public were satisfied, too. If Lorne had nothing in common with Lorna, they agreed the writer had given to the world a brilliant romance. About ten years after its first publication Messrs. Sampson, Low, Marston and Co. issued the 22nd edition. It is not too much to say that Lynton and Minehead were made famous by this novel of the land of the Doones. Mr. Blackmore was a thorough lover of the open air, and besides a keen gardener was a good shot and trout fisherman. Of late years we have missed his familiar face at the meetings of the Royal Horticultural Society, due not to a lessened interest in flowers and fruit, but to failing health.

Mr. Blackmore, we believe, was not offended when described as a "market gardener," and used this *nom de plume* to one of his works. He was an enthusiast, and his produce from the many acres cultivated at Teddington found its way to Covent Garden, but he confessed once to the writer that Pear culture was not all profit.

The Chronicle (England) says :

R. D. BLACKMORE was a good cultivator and a practical man; we have seen him pruning his own vines and fruit-trees. When fruit-growers were being lectured upon the necessity of selecting the best fruits only, of taking great pains with packing and other details of marketing, Blackmore once drew us aside with a curious smile to show us that what was being recommended was just what he had been doing for years. In these particulars he was like Thomas Rivers, who, however, was not so lenient to those who were presumptuous enough to think they could teach him how to grow fruit-trees. There is one trait in our friend's character that has not been alluded to, though the reader has but to look at his genial portrait to see that a keen sense of humor was one of his most prominent characteristics. Those who were present at a certain conference on vine diseases held at Chiswick some years ago, will remember the rich, rollicking humor with which he described a certain disease whose nature at that time was unknown. The way in which he criticised the plant doctors with an imperturbable countenance, was one of the richest bits of fun we ever remember. Unfortunately the critic was no better but rather worse informed, but everyone enjoyed the fun nevertheless. Another characteristic of our lamented friend was his generosity. Several instances of

this came under our notice. He could not say "No" when pain, or poverty, or distress appealed to him. It is possible his want of success as a business man may in a measure be attributed to this. Twice within our recollection the wagons in his yard were loaded and about to start for market, when a poor, broken-hearted man, whose

wife was dying of consumption, came and pleaded for some strawberries, which were then at a high price. The man went off with the strawberries, telling the writer of these lines that he felt ashamed to ask such a favour from Mr. Blackmore, as he had so often received similar kindnesses.

## QUESTION DRAWER.

### Best Fertilizers for Orchard.

1147. SIR.—Have been using barnyard manure for years on my orchard, but supply cannot readily be got now, so will have to get something to take its place. Saw sometime ago, in the *Globe* I think, an advertisement of Bradley's Fertilizers, and took a memo at the time. The kinds specified were Niagara phosphate, guano, dissolved bone with potash, and fruit and vine fertilizer. Could you give me a practical opinion as to whether these articles are *reliable*, and also if so, which kind would answer best for pears and apples on clay soil. As you well know it is of the utmost importance to us fruit growers that orchards should be fed well, and I do not wish to spend money on an article that will not give the best results. If these goods are not the best, kindly let me know where and what to get.

Owen Sound. W. B. STEPHENS.

As far as I am aware, the Bradley Fertilizers are reliable; that is, the results of their analysis, as made by the Government chemist, agree very well with the percentages of phosphoric acid, potash, and nitrogen guaranteed by the manufacturer.

The composition of the brands mentioned by your correspondent is as follows:

	Nitrogen, Calculated as Ammonia.	Phos. Acid.	Pot- ash.
1. Niagara phosphate . . . . .	1.00	8.00	1.08
2. Seafowl guano . . . . .	2.50	10.00	1.50
3. Dissolved bone with pot- ash . . . . .	1.00	10.00	2.15
4. Fruit and vine fertilizer. 2.5		10.00	5.40

For orchard application, I should expect the best results from either Nos. 3 or 4; the price per ton would naturally be a factor in deciding which brand would be the more profitable to employ.

Since this orchard is not receiving barnyard manure, and the soil is a clay, it occurs to me that the turning under of a crop

of clover might be beneficial. If sown early in July, an excellent stand will be obtained, if the season is at all favorable, by the end of the season—say, October—when it may be ploughed under, or, if thought best, left as a cover crop during the winter and turned under early in the spring. This plan is a very economical and effective one for enriching the soil in nitrogen and humus. It is doubtful, if such a method were pursued, whether it would be necessary to purchase nitrogen in the form of a commercial fertilizer.

FRANK T. SHUTT,

Chemist, C. E. F., Ottawa.

P. S.—Those proposing purchasing commercial fertilizers should peruse the Bulletin issued by the Inland Revenue Department, Ottawa, which states the composition of all fertilizers sold in Canada.

### Raspberry Cane Borer.

1148. SIR.—For a couple of summers a pest has been destroying great numbers of my black raspberry canes, completely killing out some hills. When the young cane is about six inches or a foot in height, some insect deposits an egg in the tender part of the cane. The egg becomes a little white maggot, which eats its way downward about an inch and a half, then eats around the cane, inside the shell, and finally nestles itself there. Thereupon the part of the cane above the maggot wilts and droops over. If the cane be broken off just at the bottom of the wilted part, the maggot will be found.

Please name and describe the parent insect in your next number of the *Canadian Horticulturist*, and tell us the best way to prevent its ravages.

Hespeler.

H. J. BROWNLEE.

The insect which deposits the egg referred to is the Raspberry Cane Borer (*Oberca bimaculata*). The perfect insect is a long horned beetle which flies during the month of June, and in oviposition the female girdles the cane both above and below the place, and the part of the stem above soon droops and withers. The young larva burrows down the centre of the stem, and in the autumn changes into pupa form, remaining in the stem during the winter and escaping the following June. It is not usually sufficiently numerous to effect much mischief, and should be easily kept in check by cutting off and burning all infested canes.



FIG. 1819. BANANA.

### The Banana

1149. Give me what information you can about growing the Banana plant.  
Orangeville.

SUBSCRIBER.

There are several varieties of the Musa or Banana family. The varieties that are probably best known to horticulturists for greenhouse culture are *Musa Cavendishii*, of Chinese origin, and *Musa ensete* from Abyssinia; the latter variety grows readily from seed and makes a nice decorative plant. All of the Musa family require a greenhouse to grow them successfully; they like a rich,

light soil, plenty of heat and moisture in summer, and plenty of root room to grow in. In winter they require much less water, but the temperature should never be lower than 55 degrees, even at night, to be successful with them.

*Musa Cavendishii* fruits readily when three or four years old when grown under favorable conditions. It is generally propagated from offsets or suckers that grow up around the old stem, these suckers can be taken off when repotting, and grown on in pots for a year or more, when in spring they can be put into a large tub two feet or more in diameter, and proportionately deep, and if grown in rich soil and given plenty of heat, shade and moisture in summer, with less heat and water in winter, will probably fruit in two or three years. Shortly after fruiting the old stem dies down, so it is necessary to secure young plants as before described. A good specimen will grow from six to eight feet in height, and when well grown has a beautiful tropical appearance.

The Musa are not desirable plants for lawn decoration in summer, unless they can be given a well sheltered and shaded position, as the foliage is light in texture and liable to be torn and broken by storms. The *Musa ensete* is probably the best variety to stand outside in summer for decorative purposes.

Hamilton.

W. HUNT.

### *Areca Lutescens*.

1150. SIR,—I should be glad if you could tell me in an early number what is the reason that a palm does not open its leaves and sends up a plain straight spike. I have a number of palms which are all right, but I have one "*Areca Lutescens*" which has acquired this habit.

JOHN A. ROBERTSON.

Chateauquay Basin, Que.

The habit of the palm, *Areca lutescens*, as described in above question, is perfectly natural; in fact there are but comparatively few varieties, common to greenhouse culture, that develop their foliage otherwise than by means of this leaf blade or spike. Among

the few exceptions in this particular are the *Cycas* family of palms—a photo of one of these, *Cycas revoluta*, can be seen in the November number, 1899, of *The Horticulturist*, which shows the difference in habit; the leaves of the *Cycas* developing from the crown of the plant, somewhat similar to the development of the fronds of many species of ferns, notably the Tree Ferns, instead of from the leaf blade as in the case of the *Areca* family of palms.

The *Caryota*, *Seaforthia* or *Ptychosperma* palms, amongst others, develop their leaves by means of a leaf blade that often attains a length of five or six feet before commencing to open, this habit being more noticeable in these larger growing species than in some of the smaller species, and as the plants attain to a greater age this peculiarity is still more noticeable than in younger plants.

The plant mentioned in the question will doubtless develop the side segments of the leaf blade in due time if the plant is healthy; heat and moisture, especially syringing, will greatly assist the development of the leaf, but do not attempt to hurry the process in any other way. I consider the gradual development of the leaves of those mentioned, and similar species of palms, to be one of their most pleasing and attractive features, as the network of brown fibry filament that adheres to and connects the numerous terminal segments of the leaves with each other, until the whole leaf is fully developed, gives the plant a beautiful and unique appearance, and gives pleasure and delight to those who study the wonderful construction and growth of these useful and ornamental plants.

Hamilton.

W. HUNT.

#### Orchard on Limestone Ridge.

1151. SIR,—We are the owners of a farm lying towards the northern portion of the County of Huron, Ont., through the centre of which runs a limestone gravel ridge, elevation being somewhat above the other parts of the property. On this ridge the soil is shallow, so much so that it would not pay for the cultivation of other crops upon it. This part of the farm is grown over with a thick

coat of wire or June grass. We are just now considering the question of planting ten acres of this ridge to winter apples. We have been advised to summer fallow this the first season, then the following spring plant trees forty feet apart each way, and cultivate by ploughing under pease or some green crop for a season or two. The trees to be of the Talman Sweet variety, and when two or three years old, graft on three or four of the best winter fruit varieties. Your opinion would be regarded as valuable as to the soil mentioned: cultivation, planting, grafting and staking; also the names of three or four of the best winter varieties of apples adapted to this section, or any suggestion from you would be appreciated by us.

“AMATEUR.”

We have no experience in planting apple trees on a limestone ridge, in shallow soil, but would fear two difficulties: First, that the trees would suffer from drouth and become stunted, and second, that the soil would lack fertility. If, however, these two difficulties can be overcome, possible success might result. The advice given our correspondent regarding treatment of the soil is good, and the Talman Sweet is a first-class stock for top grafting. In planting we would advise drawing as much good soil, with as large a proportion of humus as possible, and use it to fill in about the trees; cultivate thoroughly every year, either adding manure, or ploughing in clover or some such crop, and thus the best conditions will be afforded.

Some good winter varieties of apples are Ontario, Wealthy, York Imperial, Ben Davis, Pewaukee and Canada Red.

#### Best Single Geraniums.

1152. SIR,—Will you be kind enough to give me the names of the six (6) best single geraniums for bedding out. I refer to those having the largest stems and trusses. You can send the answer through the *Horticulturist*, if you wish.

C. HIRSCHMILLER.

23 Simcoe W., Hamilton, Ont.

We have been testing over 260 varieties of geraniums at the College, and where there are so many excellent varieties to choose from, it is difficult to narrow the list down to half a dozen. Among the scarlet varieties there is a great range for choice, while among the whites the really first class

varieties are comparatively few. I give below two lists of which includes quite a range of colors. Those in the first are single and many of them are new. Those in the second are double or semi-double, and most of them are well known standards that have not yet been surpassed :

- 1.—M. A. Boulaus, rich crimson-scarlet.  
W. A. Chalfant, bright scarlet.  
Mrs. A. Blanc, salmon.

Mrs. E. G. Hill, salmon-pink.  
Madonna, delicate soft pink.  
Snowdrop, dwarf, pure white.

- 2.—J. J. Harrison, bright scarlet.  
Gen. Grant, orange scarlet.  
S. A. Nutt, dark crimson.  
Adrien Corret, magenta crimson.  
Mons. de la Rue, pink.  
La Favorite, pure white.

## Open Letters.

### Fruit in New York Market.

SIR,—Late in December I purchased three California Winter Nelis pears, that weighed a little more than 2½ lbs., for thirty cents. On the same fruit stand there were more than forty pears of the same variety equally large and fine. The quality was best, and they were free from defects. I never supposed Winter Nelis could be grown so large. In January I secured two Easter Beurre pears that weighed one full pound each for thirty cents, and the dealer had many more equally fine and large. I have eaten smaller pears of the same variety, of better quality. Nevertheless, they were delicious. I found some prime specimens of P. Barry to-day at 10 and 12½ cents each. For the latter half of this month, and March and April, the P. Barry pears and unsurpassed. They reach here carefully packed in prime condition, as hard as stones, and go into cold storage until the market is ready for them. *Prime* strawberries from the South to-day bring 40 cents per basket. They are large pints or small quarts. They are in *perfect condition*. Beautiful and perfect heads of Cauliflower, 12 to 15 inches in diameter, are in market. When Cuban prosperity is restored, we shall have fresh vegetables and fruits from that island in January and February, and from Bermuda in March and April, and from our Southern States in May and June. Freights by steam vessels from Cuba will be low, and with cold storage such products can reach us in fine condition, and sell at moderate prices. *Late* strawberries, raspberries, black-caps, blackberries and currants will command better prices than early fruits grown in this section. We have had a fair supply of handsome apples, but few of fine brisk subacid flavor, such as can be grown in Ontario. I have purchased fine large and fair Greenings, Spitzenburgs, Bell-flowers and Golden Russets, and then thrown them into the gutter after tasting them they were so insipid.

Brooklyn.

FRANCIS WAYLAND GLEN.

### Dishonest Packing.

SIR,—We see by Canadian Grocer that you and Mr. Orr called on the Minister of Agriculture to endeavor to find some means to put a stop to dishonest packing of fruit, especially of apples for exportation. Our canning factory here has had a great amount of trouble this year when opening a barrel that was bought as Spys or Baldwins to find them sweet apples or poor little cider apples, of no use whatever, and all other fruits to a certain extent are not properly graded and labeled.

We are of opinion, as we wrote you in December last, that the only way to stop this rascality is by Act of Parliament, making it compulsory when fruit is sold that it be properly labeled with the growers' name, number of lot, township and county; in case he did not pack it himself, the man's name who did pack it; in case he sold to a dealer, then the dealer's name. The grower or dealer to become personally liable for damages, and every one connected with the packing to be criminally liable for committing a fraud and be punished by fine or imprisonment or both.

We have never seen the rules for grading as made by your Fruit Growers' Association. Would like very much to have them.

We will be ready to assist all we can at any time to further the purpose about which we are writing

Waterford.

BOWLBY BROS.

### A New and Valuable Forage Plant.

Capt. E. A. Wilson in January Horticulturist recommends a Desmodium or Beggar Weed. Would Capt. Wilson kindly give the specific name, as there are about eighteen species of Desmodium in the United States and about nine in this province? I have found seven species growing within a mile of my home, in light, sandy soil. Desmodium Candense or Tick Trefoil is the most likely species as a forage plant; it grows about from four to six feet high. I have noticed

cattle eat this species quite readily, belonging to Leguminosæ, belonging to a large, useful class of plants. Clover, vetch and peas are included in this family. If you carelessly run up against a plant in seed enough of seed pods will adhere to your clothing to sow a good sized garden. This species is quite a good garden herbaceous plant. The flowers are purple and much larger than any other species.

The roots are very wiry; I should think it would be very difficult to plow under if well established. I have grown this plant for quite a number of years. What attraction this plant had for visitors I cannot tell, but they were sure to find it out to their sorrow.

A. GILCHRIST.

#### The Plant Distribution.

SIR.—I am much pleased that the plant distribution is still continued as we consider the plants received worth half the price of the Horticulturist, and would sooner pay something extra than have them discontinued. The raspberry of 1897 distribution was so laden with berries last year that the branches hung to the ground with the weight of them. The Crimson Rambler of the year following had one cluster of eleven roses last summer, each rose perfect, and the first in bloom remained until the last bud opened two weeks later.

Toronto.

MRS. T. P. IVENS.

#### Fraud in Fruit.

SIR.—I have just been reading the report of the Annual Meeting, and I think the Association deserves small credit for leaving the Fraud in Fruit question at fairs in such an unfinished state. To me it seems that a fair is more for the encouraging of fruit growing and the educating of the growers than to display to the public what can be grown, though this is a great object, so that the encouraging or allowing of this professional exhibitor is a fraud and an injustice to the grower. Now, I think the only way to knock out this gentleman is for the district branches to take his place. It is their duty to gather up all the best produce in the dis-

trict and exhibit at the provincial fair, so that district may compete against district and province against province. In this way we would learn which district or province could produce the best of any kind of fruit, and what variety of that kind was most suitable. All care should be taken to give the exhibitors confidence of justice, for the best class of exhibitor does not complain, only he does not compete again

Vernon, B.C.

THISTLE BURR.

#### Dishonest Packing.

SIR.—I must confess to a great degree of disappointment that your amending reading of Sec. 3 of the Government fruit inspection regulations proposed by the Whitby growers in session assembled should so easily satisfy you.

Although a little better than the original draft, perhaps, it will, in my humble opinion, utterly fail to remedy this crying evil.

If, as claimed in my published article in your March number, "an ounce of prevention" for the obvious reasons pointed out is worth *far more* than a "pound of cure," how much can the "mouse," which, after much labor the "mountain" of Whitby growers has brought forth, be expected to accomplish?

Everybody in this "Empire days" of which we are all so justly proud is expected to display a flag; would it not also be a fitting time for loyal orchardists to raise a war standard of their own? May I offer a design? If so, here it is for consideration while waiting for a better one: A spray of apple blossoms in each corner, a fine cluster of apples in the centre, and surrounding the latter in a large upper half circle this motto: "CONFISCATION AND PUBLICATION FOR DISHONEST PACKERS."

That the principle upon which this sentiment depends will eventually animate the large majority of the apple growers of the Dominion in their legitimate and proper demand for efficient Government inspection is my firm belief.

Yours truly,

Danville, P. Q.

GEO. O. GOODHUE.

## Our Affiliated Societies.

GODERICH.—At a meeting of this society Mr. W. Warnock read a paper on "Man's duty to discover and improve trees and plants good for food or for ornament.

WOODSTOCK.—Mr. Bacon's lecture was highly appreciated. Too little attention has been given to growing flowers by amateurs about Woodstock, except by the few, as for example Mayor Scarff, and a few others.

ORANGEVILLE.—Notwithstanding counter attractions a good audience was present on Friday evening, the 30th, to hear Mr. Bacon's lecture on

bulbs and bulbous plants. The Orangeville orchestra contributed some splendid musical selections.

HAMILTON.—The Hamilton Horticultural Society is about to distribute several hundreds of potted plants among the children of the public and separate schools. A card with detailed cultural directions will accompany each specimen and premiums (not money) will be awarded for best grown specimens in the fall.

STIRLING.—Mrs. Jas. Boldrick was again elected president at the annual meeting. Her address

at this meeting, and also the address from the 1st vice-president, was printed in full in the *Stirling Argus*. Prof. Macoun's lecture on climbing vines and perennials on Monday evening was very entertaining and instructive. Music was furnished by the *Stirling band*.

**KINCARDINE.**—The secretary sends us their circular giving the members a choice of ten collections and offering any member any of the other collections at the wholesale cost. Children are encouraged by the "Flower League" to join that department, each paying 10 cents and receiving the "Flower League" premium collection. Cut flowers and plants grown from this collection will form one of the most interesting parts of the Annual Horticultural Exhibition.

**NAPANEE.**—The town hall was filled to the doors to hear Prof. Macoun, of the Central Experimental Farm, Ottawa, give an address on horticulture. Mr. T. M. Henry, chairman, in his introduction spoke of the benefit the society had been to the town in the way of beautifying the homes and increasing public interest in floriculture in the formation of a public park. There was an interesting musical programme, which was highly appreciated. There was also a question drawer at the close of the lecture.

**CARDINAL.**—Sir: In re lecture on "Flowers for a Small Garden," by Mr. R. B. White, of Ottawa, held in the town hall here on Tuesday evening, the 30th, it was a very satisfactory lecture on both sides. The audience had many little details explained and questions answered, and the lecturer remarked that it was the best audience he had had yet, and as we are next to last on his list it is pleasant to think that the Cardinal society can more than hold its own against the towns in receiving a lecturer.  
E. E. GILBERT.

**PORT HOPE.**—Professor Macoun gave last evening in the town hall a very interesting talk about flowers. He strongly recommended the more general planting of perennials, as in his opinion they gave the best average results. He exhibited dried specimens of those which had proved hardy at the Experimental Farm at Ottawa, which added much to the interest of the meeting. A vote of thanks was moved by J. Smart, Esq., vice-president, and seconded by Judge Benson, which the chairman, H. H. Burham, president, tendered to the professor, hoping we should hear him again on some future occasion.

**OWEN SOUND.**—On the evening of the 13th March we had our visit from Mr. Wm Bacon, lecturer from the Ontario Fruit Growers' Association. Questions were freely asked and answered. One was: Why the Easter Lilies were so unsatisfactory of late? The lecturer attributed the failure to deterioration of the bulbs. He advised that we cease purchasing for a time until the growers find the importance of growing better stock. In reply to a question about house plants he said it was necessary to have lots of fresh air, good soil, a sharp knife, hard heart and a little patience, and with these success was sure to come. Dr. Cam-

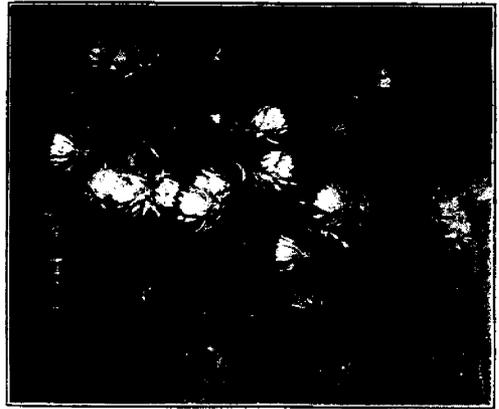


FIG. 1820. CRAB CACTUS, GROWN BY R. JENNINGS, BRAMPTON.

eron, the chairman, emphasized the wonderful effects of flowers in the sickroom, and advised that they be more often sent to houses of the poor in time of sickness.

**PARIS.**—On Thursday evening, 22nd March, we were greatly favored by a lecture from Mr. Wm. Bacon, of Orillia, on the subject, "The Bulbous Family," presented in a popular manner. The hall was well filled with an enthusiastic and appreciative audience, the more so as our society has included bulbs in its free distribution this year. Mr Bacon's lecture was one of the best that has ever been given in Paris under the auspices of this society.

Our society is only entering its second year but with increased vigor, not so much in numbers as in enthusiasm, and we look forward to a prosperous year.  
GORDON J. SMITH, Sec'y.

**BRAMPTON.**—Mr. Burrell, of St. Catharines, delivered a lecture on "Flowers in the Home" on the 5th March, in Haines hall, and although the night was a very boisterous one, between thirty and forty of our association were present and were deeply interested in the lucid and educational manner in which the lecture was delivered. Dr. French our 1st vice-president, on the violin and Miss Alice Treadgold on the piano gave several selections during the evening. Many questions were asked and answered. A pleasant feature of the evening was the production of two photographic pictures by one of our esteemed members, the manager of the Merchants Bank, W. C. Young. "The Azalea Indica," raised by Mr. Richard Jennings, florist, one of our society; the other is the "Night Blooming Cereus," grown in the conservatory of Mr. W. C. Young. The picture does not show all the flowers out at the time the photo was taken, and about three weeks previously about fourteen blooms were out. If our societies have any photographers in their membership I am sure the general members would be pleased to see cuts of plants, etc., in *The Horticulturist*. I en-

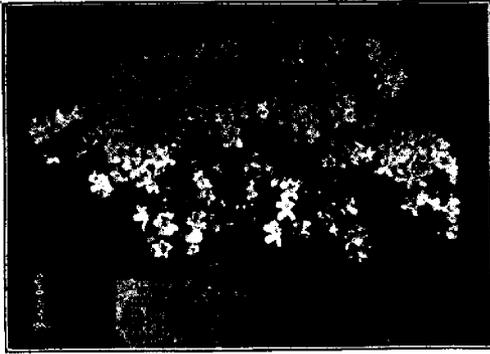


FIG. 1821. AZALEA INDICA, GROWN BY  
R. JENNINGS, BRAMPTON.

close photos of the two plants and shall be pleased if you will give them space in your next issue.

HENRY ROBERTS, Sec'y.

TORONTO JUNCTION.—The Verandah and its Environments was the subject of Mr. Bacon's lecture before our society on Wednesday, the 28th March. He advised that a deep layer of good rich soil be placed around the verandah for honeysuckles, crimson ramblers, bitter sweet, jessamine, clematis, etc. Hanging baskets, he thought a necessary adjunct to the verandah, and such plants as the lobelia, the German ivy and other trailing plants, surmounted in the centre by a striking geranium, proved very effective. Instead of bringing plants out of the house and distributing them over the verandah, he suggested that cannas, in groups of half a dozen, should be

placed in large pots to give foliage, color and a tropical tinge. Palms and hydrangeas were also effective. Instead of beds, earthenware or rustic vases were recommended for the lawn on each side of the steps. These, containing vincas, the German ivy, the old Madeira vine, together with bright flowers, took up little room and would not deface the lawn.

MITCHELL.—The first public meeting under the auspices of the Mitchell Horticultural Society was held in the town hall on Friday evening, March 16th. For the first meeting of the kind there was a good attendance, and the audience evinced a keen interest in the proceedings and especially in the practical talk by Mr. Wm. Bacon, of Orillia. The management of the Ontario Association made no mistake in securing Mr. Bacon for this lecture work, for he is doing it well and his audiences are showing their appreciation by the attentive hearing they are giving him and the freedom with which they ply him with questions. The chair was occupied by Vice-President W. Elliot, B. A., the president, Dr. Smith, having been called out. T. H. Race first explained the purposes for which the society was organized, its aim and objects and the benefits to be gained through its privileges and its operations. One thing noticeable about the audience was that all the clergymen of the town were present, and at the close of Mr. Bacon's very practical and instructive address a vote of thanks in appreciative and complimentary language was proposed to him by Rev. M. Kenner, of the Methodist church, heartily seconded by Rev. Mr. Kerrin, of the Anglican church. The hall was nicely decorated with plants in bloom from the greenhouses of Mr. C. E. Skinner, and the object lesson was as pleasing as the talk of Mr. Bacon was instructive. The society has now over sixty members and the number promises to increase during the year. T. H. RACE, Sec.

## OUR BOOK TABLE.

ANNUAL REPORT of The Fruit Growers' Association of P. E. I., 1900, annual meeting held at Charlottetown, Jan. 24, 1900. Secretary, Peter McCourt, Charlottetown. This is the record of the fourth annual meeting, and though scarcely fifty pages it is a most creditable report, showing that this association, though young in years, is yet accomplishing work which might do credit to an organization of riper years.

PRIZE LIST of the Great Northwestern Exhibition to be held in Goderich, Sept. 26, 7, 8, 1899.

THE AMATEUR'S PRACTICAL GARDEN BOOK, containing the simplest directions for the growing of the commonest things about the house and garden, by C. E. Hunn and L. H. Bailey. Published by the McMillan Co., New York, 1900. Price, \$2.00.

THE WESTERN NEW YORK HORTICULTURAL SOCIETY—Proceedings of the 45th annual meeting, held at Rochester, N. Y., Jan. 24th and 25th, 1900. John Hall, Rochester, Secretary. This volume is full of practical interest to the most advanced fruit growers of North America, and is well worth the \$1.00 membership fee in return for which it is sent out.

This is a most convenient and useful volume of 250 pages; just what every amateur flower grower needs to have at his elbow for ready reference, to help him out of his difficulties and furnish needed information. It is a sort of Encyclopedia in a nutshell, having the names of plants alphabetically arranged, with brief description, treatment, etc. We commend this book to those who do not wish to invest in a larger or more expensive work.