

Technical and Bibliographic Notes / Notes techniques et bibliographiques

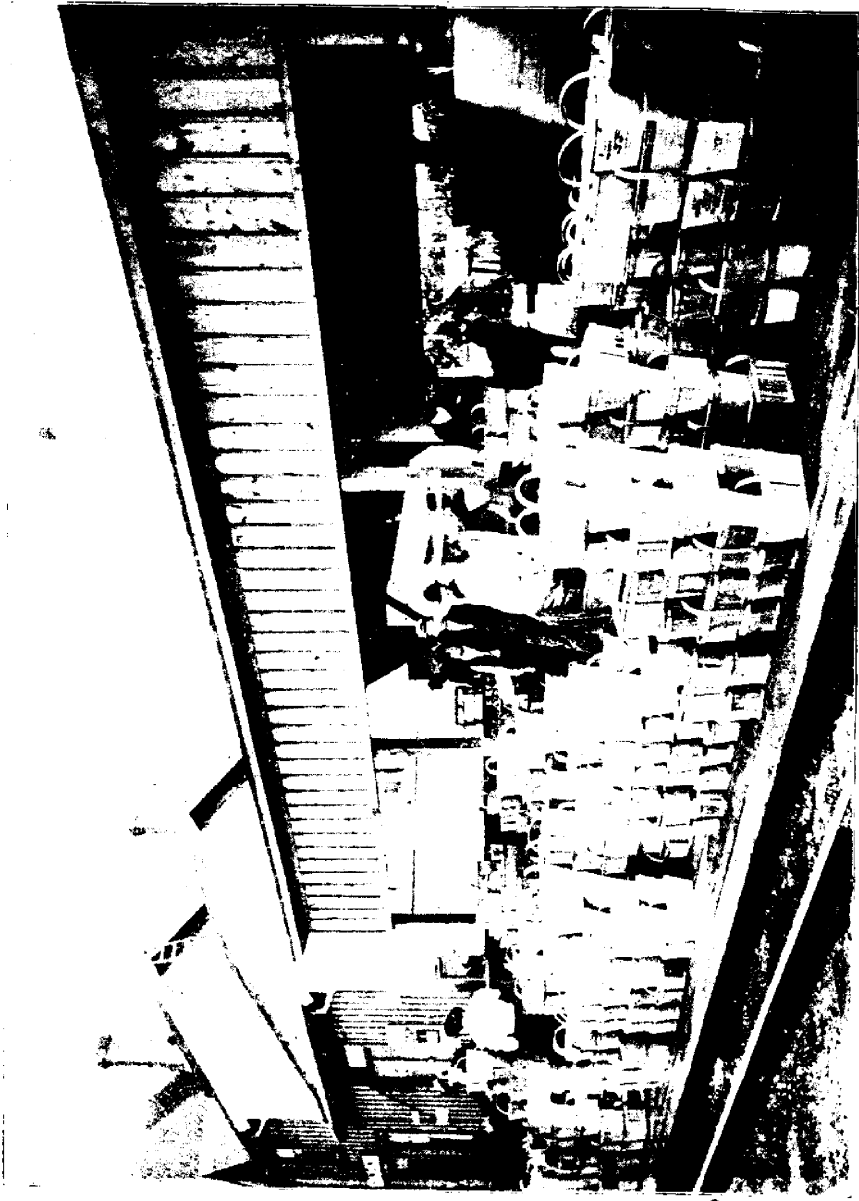
Canadiana.org has attempted to obtain the best copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

Canadiana.org a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed /
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

- Additional comments /
Commentaires supplémentaires: Continuous pagination.



SHIPPING FRUIT AT WINONA. ONT

THE CANADIAN HORTICULTURIST.

VOL. XX.

1897.

No. 3.



THE GRIMSBY AND WINONA FRUIT GROWERS,

THESE two sections are really one; the G. T. R. railway stations are scarcely five miles apart, and are in adjoining townships. Here the fruit industry was first stimulated into activity by such pioneers as A. M. Smith, and C. E. Woolverton, who began shipping strawberries and other fruits by express, about the year 1860.

In those days strawberries averaged 10 cents a quart for the season, grapes 10 cents a pound, apples \$2 a barrel, and peaches \$3 and \$4 a bushel. The first blackberry plantation at Grimsby was of the old Lawton variety, and these averaged about 15 cents a quart. Those were the palmy days of fruit growing; yet, every one planted sparingly for fear of overstocking the markets. Between the years of 1860 and 1870 probably \$1,000 a year would cover the total value of fruit shipped by express from Grimsby, while that of apples by freight would be covered by two or three times that sum. What a contrast with to-day, when the value of the fruit shipped from

each of these shipping points is upwards of \$100,000 per annum; while of apples the G. T. R. agent reports that about 18,000 bbls. have been shipped this season from Grimsby alone, and 6,000 from Winona.

Our frontispiece shows the Winona station just before the arrival of the fruit train, with the fruit packages piled up on the platform awaiting transportation, photograph was taken by Mr. Craig, and the plate first appeared in the report of the Committee on Agriculture of the House of Commons, and was loaned this journal by Mr. J. H. McLeod, Secretary of the Committee. A similar view might easily be made at Grimsby almost any day during the whole fruit season from July to October.

It seems a little strange that now, when prices are so low, the fruit growers are planting whole farms to fruits, while in those days of high prices a small garden plot was enough to satisfy them.

Among the prominent fruit growers of Grimsby and Winona, at the present time, we will mention the following, and others will be noticed in a future number:



FIG. 1062.—W. M. ORR'S FRUIT FARM, "FRUITLAND," NEAR WINONA,

THE GRIMSBY AND WINONA FRUIT GROWERS.

Mr. E. J. Woolverton, Grimsby, is a well-known fruit grower, because of his connection with the Niagara District Fruit Growers' Stock Co., of which he is president. His orchard is a perfect picture, consisting of about sixty acres of the choicest fruit land, in the very best state of cultivation. He has a ten-acre orchard of Baldwin apple trees, about thirty years planted, every one a beauty. They had never given a full crop, but this year they were loaded with prime fruit. But they ripened two weeks earlier than usual and two-thirds fell to the ground before they could be harvested. He shipped about 1,900 bls., but like many others, received from the net proceeds scarcely his actual expenses. Is it any wonder that he has decided to dig out a large number of these fine trees and plant some more profitable fruit?

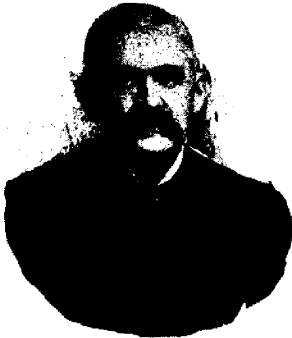


FIG. 1063.—MR. E. J. WOOLVERTON.

He has a very large vineyard of Niagara, Pocklington, and Rogers grapes, which yield abundantly, and one of the finest blocks of Duchess pears in the whole district. These fine trees were his pride for some years, owing to their rapid and vigorous growth, until the blight sadly disfigured them. Notwithstanding the discouragements Mr. Woolverton still has confidence in the future of fruit growing, and has planted his whole farm with the various fruits. His farm adjoins that of the Secretary of the Ontario F.G.A., on the west, being separated by a lane leading to Lake Ontario.



FIG. 1064.—MR. A. H. PETTIT.

Mr. A. H. Pettit, of Grimsby, whose fruit farm adjoins that of the writer on the east, was one of the first to plant a large peach orchard, chiefly of Early Crawford peaches; a large vineyard of Concord grapes; an orchard of 600 Baldwin apple trees; a plantation of Duchess pears, and other fruits. This original Crawford peach orchard was a great success, and only quite recently was renewed with young trees. The Baldwins gave him their first crop this year—the finest we ever saw—and brought the owner excellent prices from some of the inland markets of Great Britain.

Mr. M. Pettit, of Winona, a notice of whom has already appeared in this journal, is like Mr. A. H., one of our ex-presidents, has always made his vineyard his chief hobby. It is situated on rich, sandy loam, close under the mountain, the sediment from which constantly enriches. All the way to Collingwood and Thornbury this condition prevails, and those similarly situated all along the mountain base might well plant their

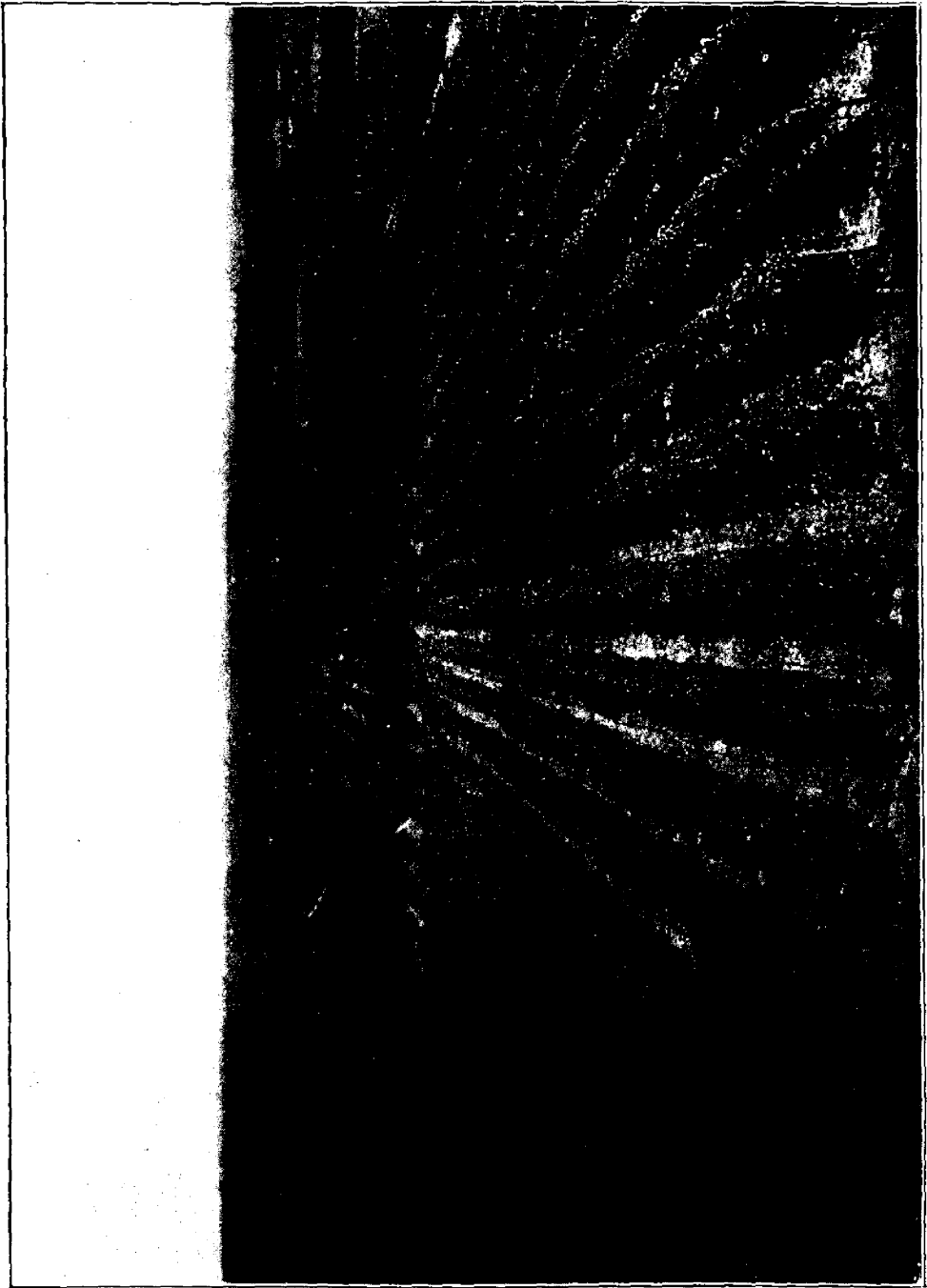


FIG. 1065.—MR. VAN DEZER'S FRUIT FARM LOOKING FROM THE MOUNTAIN.

THE GRIMSBY AND WINONA FRUIT GROWERS.



FIG. 1066.—MR. M. PETTIT.

land to fruit. His many varieties of grapes led to his being chosen experimenter in grapes. Mr. Pettit has also a large pear orchard, notably of Giffard and Bartlett, two of the most satisfactory of our summer pears.



FIG. 1067.—MR. W. M. ORR.

Mr. W. M. Orr, "Fruitland," is also well-known to our readers, some account of his life as a fruit grower, having appeared on p. 111, volume XIX, from which we re-produce the excellent view of his fruit farm. This is situated like Mr. Pettit's, just along the base of "the mountain," and therefore naturally favorably situated to produce the best of fruit. Mr. Orr is now Vice-President of our Association, a position of advancement which his merits well deserve.

Mr. Ira VanDuzer, of Winona, has for nineteen years been engaged in nursery and fruit growing, first in company with Mr. J. Wesley Smith, and latterly by himself. As the fruit of his industry



FIG. 1068.—MR. IRA VANDUZER.

he has recently completed a beautiful residence of which he has furnished a photograph. It is situated close along the side of the H. G. & B. electric road, the platform of which is seen in front, and to the south, in the rear is a view of "The Mountain," near the base of which all the best orchards in this locality are situated. The next cut (Fig. 1070) shows a nearer view of this mountain, with a portion of Mr. VanDuzer's plum orchard in the foreground. In another view (Fig. 1071) is shown Mr. VanDuzer's fruit farm looking from "The Mountain." In the distance, to the north, is Lake Ontario, and the

THE GRIMSBY AND WINONA FRUIT GROWERS.

stretch of land between is but a portion of that famous Niagara fruit district, along from Hamilton to Queenston, similarly situated. In the distance is a rear view of Mr. VanDuzer's house, while nearer, just below, the vineyard in the foreground, is his plum orchard of seven acres, containing about 1400 six year old trees. From this orchard Mr. VanDuzer harvested in 1896 an enormous crop, for such young trees to bear ;

the balance Lindley, Agawam, Worden Moore's Early, Niagara, etc. Then follows four or five acres of bearing peach trees. In addition to these there are twelve acres of currants and other fruits, and in all about 42 acres in nursery and fruit garden.

Mr. VanDuzer belongs to one of the earliest families in this locality, his grandfather, Mr. John VanDuzer, from Pennsylvania, settling nearly a century ago



FIG. 1069. -MR. VANDUZER'S RESIDENCE.

he gathered 6600 baskets of plums, which, notwithstanding the very low prices prevailing, he was able to place on orders at an average of about 35 cents a basket. The varieties were chiefly Reine Claude, Yellow Gage, Wasington, Imperial Gage, Gueü, Pond's Seedling, Coe's Golden Drop, and Lombard.

Next below the plums is a vineyard of five acres, nearly one half Concord and

on a farm at the top of the mountain, near his present home.

Figure 1071 shows another somewhat similar view at Grimsby ; our photographer's camera was placed on the mountain side, and looked down upon a vineyard close at hand in full leaf, and just beyond is seen a fine vigorous young plum orchard, while to the right is a healthy, well-grown peach orchard. These beautiful grounds are in excellent

NOVA SCOTIA FRUIT GROWERS.

cultivation, on the very choicest land, close along the limits of Grimsby Village and are valued at \$400 per acre by the owner, Mr. Hugh Anderson. This gentleman's house is on the extreme left of the picture, along the highway leading from

the village to the park. The large building about the middle is Mr. B. R. Nelles' Canning Factory, and in the distance, the sky and the waters of Lake Ontario seem to unite.

(To be Continued.)

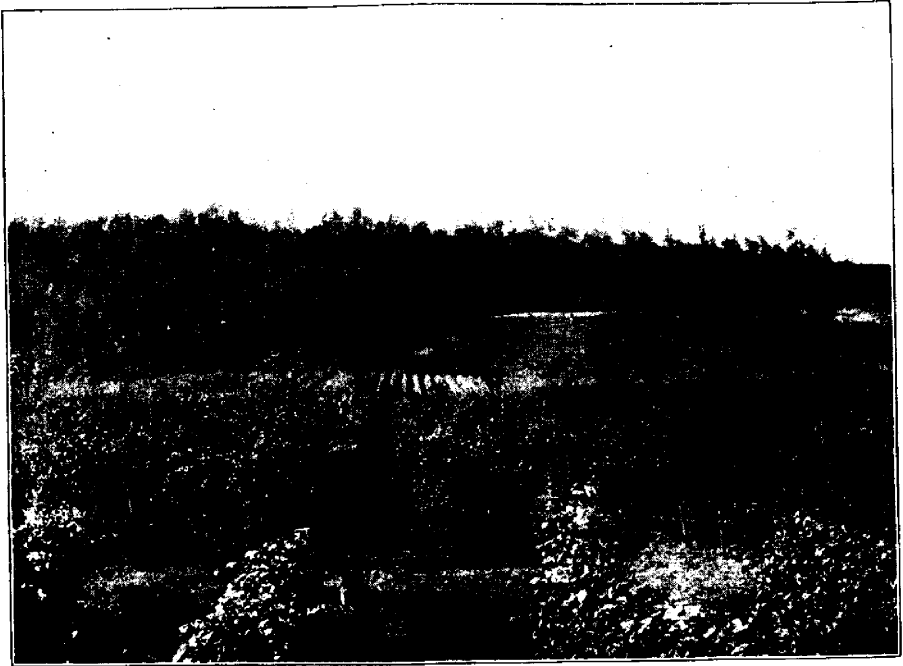


FIG. 1070.—SKETCH OF MOUNTAIN, MR. VAN DUZER'S PLUM ORCHARD IN THE FOREGROUND.

NOVA SCOTIA FRUIT GROWERS.

THIS old and respectable Association held its thirty-third Annual Meeting in the College Hall at Wolfville, N.S., on the 20th of January. A small but thoroughly representative assembly was present. The meeting was called to order shortly after 2.30 by President Bigelow, who, after calling on Rev. A. Martell for prayer, delivered his annual address, from which we cull the following paragraphs.

Ladies and Gentlemen,—I have the honor of again presenting to you my

annual report, and have to record that for the first time in the history of this Association, owing to an unusually abundant fruit crop throughout this continent, and a consequent overstock in all our fruit markets, the fruit industry has not been as remunerative as usual. From the most reliable information obtainable, I report the apple crop of Nova Scotia this year at 500,000 barrels. The crop in Ontario and Quebec is reported to be 3,000,000 barrels, or more than double of any previous year for Canada. The United States Government returns

NOVA SCOTIA FRUIT GROWERS.

put their apple crop at 60,000,000 barrels. We have shipped already 230,000 barrels, principally to London, there to be met with enormous consignments from United States and Ontario, amounting to 2,300,000 barrels, shipped to England, which has so overstocked that great market that prices have returned to the grower an average of from 75 cents to \$1.00 per barrel. Owing to the above cause, rendered more unprofitable by the

Although this extreme over-production may not occur again for some time, I think the time has come when we must base our calculations for apple crops at not over one dollar per barrel average, and at this price with reasonable freight rates, I claim that this can be made the most profitable farm industry in Nova Scotia, and as compared with the low prices likely to continue for all food products, this must be considered an equit-



FIG. 1071.—

exorbitant freight rates and charges by the subsidised lines of steamers running between Halifax and London, the fruit grower has practically been growing fruit this year to enrich the carriers and agents. We have paid the carriers already over \$200,000 in freight, and received about \$100,000 to cover cost of growing, barrels, picking, etc., which results in a loss to us.

able price, and all my previous calculations for apple production in Nova Scotia have been based at \$1.00 per barrel.

The promoters of the Halifax cold storage warehouse, having failed so far in securing the required capital, fruit growers as well as all producers of perishable fruit products are deprived of the advantage of any cold storage in this Province.

NOVA SCOTIA FRUIT GROWERS.

Amid the discouragement occasioned by the unremunerative price obtained for that portion of our crop already marketed, we have the cheering prospect of better prices for the large quantity of superior fruit still on hand, and with a good market in February and March, we may yet make a paying average on the year's fruit crop.

Dr. Chipman, of Grand Pre, spoke in favor of the grant for the foundation and

such a station, and moved the following resolution :

Whereas this Association has failed to obtain annual grant of \$2,000 for establishment and support of an experimental fruit station from both the late and present government, let it be resolved that this Association invite the co-operation of the Ontario F. G. A. and all agricultural and horticultural societies in Canada, to urge the federal government to adopt a more just and liberal policy toward farmers and fruit growers by establishing the fruit station requested.



FIG. 1072.—GRIMSBY VILLAGE PROPER—SEEN FROM THE MOUNTAIN.

support of experimental fruit stations. In agriculture, as in the learned professions, education was necessary, and he thought that the horticultural school at Wolfville should be supplemented by

This was seconded by Henry Shaw, of Berwick. Dr. Reid, of Halifax, spoke in favor, saying that a farmer needed a more liberal education than any other profession. The resolution was carried.

THE FOXGLOVE AS A BORDER PLANT.

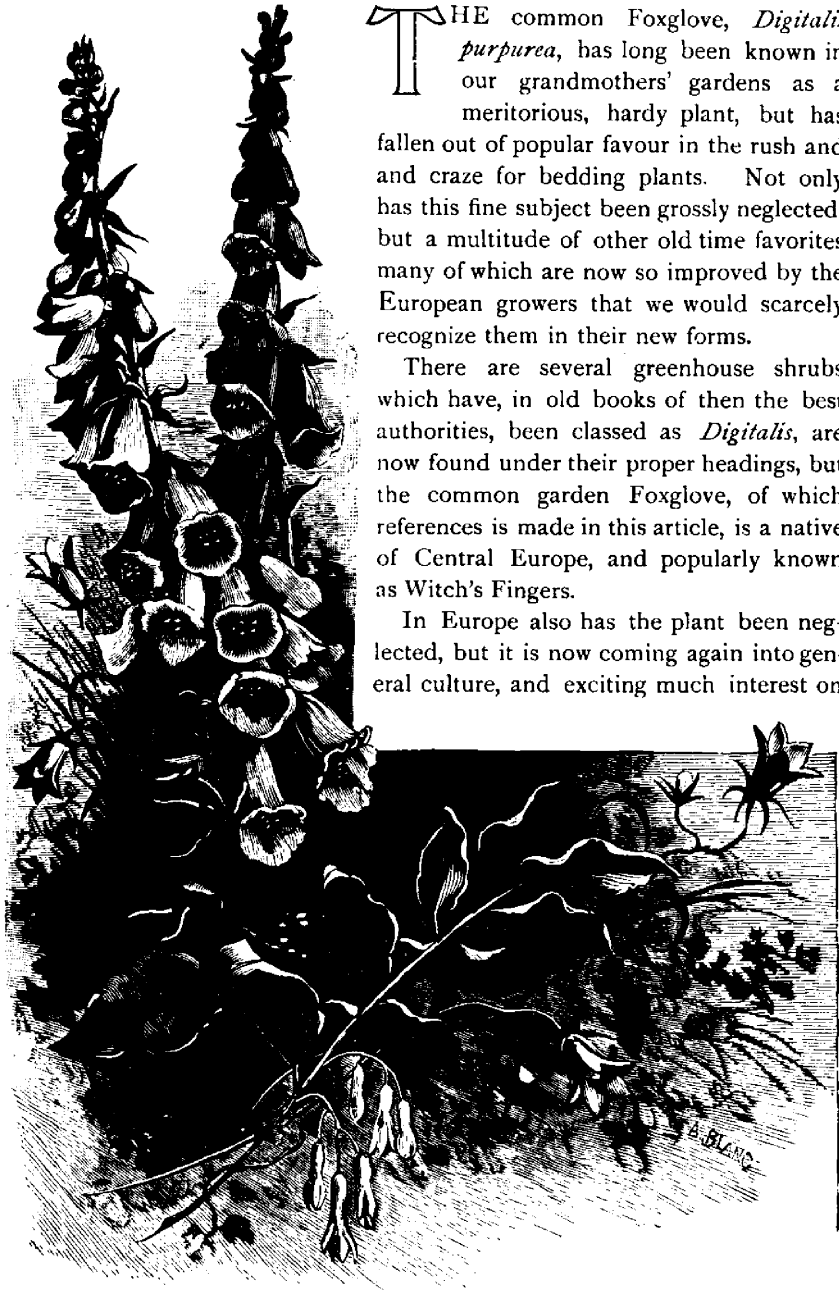


FIG. 1073.—FOXGLOVE.

THE common Foxglove, *Digitalis purpurea*, has long been known in our grandmothers' gardens as a meritorious, hardy plant, but has fallen out of popular favour in the rush and craze for bedding plants. Not only has this fine subject been grossly neglected, but a multitude of other old time favorites many of which are now so improved by the European growers that we would scarcely recognize them in their new forms.

There are several greenhouse shrubs which have, in old books of them the best authorities, been classed as *Digitalis*, are now found under their proper headings, but the common garden Foxglove, of which references is made in this article, is a native of Central Europe, and popularly known as Witch's Fingers.

In Europe also has the plant been neglected, but it is now coming again into general culture, and exciting much interest on

account of the magnificent new forms showing that it is not an exception to which have developed, in the hands of the ordinary in plants when given liberal those making a specialty of the plant, cultivation and careful, intelligent selec-

THE FOXGLOVE AS A BORDER PLANT.

tion. In the common foxglove we really did not have enough range of color to warrant an extensive planting, and it may be due to this that the plant has been allowed to drop into the background, but now varieties appear having the recommendations of freedom of flowering, robust growth, and individual blooms of great substance, bold form, and wide range of beautiful colors and shades. One form that is always admired, either on the plant or cut, is the pure white with purple sprays on the lower portion of the bell-shaped bloom. So great has been the improvement in size and shape of the blooms that they compare very favorably with the improved Gloxinias, which they considerably resemble in this respect. For the present perfection of the Foxglove, we thank the French nurserymen for their untiring efforts in selecting and hybridizing until perfection be reached.

The best use, no doubt, to which the Foxglove may be placed is in the border, as we often see the Hollyhock now employed, with evergreens as a background. A bold clump thus placed and grown in greatest health, gives us a change and one which will be greatly admired.

Generally speaking, such tall growing things are best kept at a distance, though well arranged clumps may be used with great effect in a conspicuous place,

pretty well forward occasionally; but it is necessary to give the matter of such a location considerable study, as it will mar one's grounds if not properly placed.

One great advantage of the Foxglove is that seedlings come up of their own accord in countless numbers, where all the flowers are not cut, so that it is only necessary to do the thinning out and transplanting in order to keep up the supply. However, there is one objection, that is, the losing of many of the finest kinds, as one cannot tell what the seedlings will produce unless grown in separate clumps of single colors.


The wild garden and our parks afford excellent opportunities for introducing the Foxglove, and when once established, one need not fear of its becoming much crowded out by the other subjects. While its beauty and appearance are so out of the ordinary growth, its time of flowering will be eagerly looked for each season when once the finer introductions become known.

A package of mixed seeds of the latest hybrids may be had 50 cents of some of the larger seed houses, and will give nearly all of the desirable varieties. Sown first in a pan or box, and afterward transplanted to 18 inches apart, they give a fine display.

The best soil is a loose loam, thoroughly enriched and well drained.

HARRISH AND LONGIFLORUM LILIES
Can be potted in six or seven inch pots (top of bulb near top of soil) at any time after having a dormant period of a few months. Water sparingly until ball fills with roots and top growth is well estab-

lished, then they will need more water; never let any lily in active growth get wholly dry. After blooming, dry off, keep in cool, dry position without disturbing the bulb until it is again fit to repot, when shake out of old soil and pot as above.



 ❖ The Orchard and Fruit Garden. ❖

DUCHESS AND TYSON PEARS.

WHEN dwarf pears are spoken of, the Duchess is always first in mind, and it is widely planted in our Province. It is of French origin; and in Canada it ripens early, in October. Its immense size, the excellent quality of the flesh, and the productiveness of the tree, have well combined to make it the dwarf variety for market purposes with fruit growers in Southern Ontario. Some have planted it by the hundred in solid blocks expecting to reap rich returns, and until within two or three years past all expectations seemed to be justified: but we have been disappointed, for the price for Duchess pears, as well as for all other fruits, has been unusually low. Formerly 75 cents was the ordin-



FIG. 1075.—DUCHESS PEAR.

ary price for 1½ peck basket of these pears, but now 25 to 40 cents seems to rule.

What is the remedy? First plant other varieties near for cross fertilization of the blossom. Second, aim to grow only the the large, fine sized samples. No pear is more uninviting than a badly grown Duchess, knotty from curculio stings, undersized and colorless. Cultivation and manuring must be liberal, but that is not enough. The grower must thin his fruit well, leaving only the best to mature; and he must prune properly. Very few of our growers take the trouble to prune their dwarf pear trees after any definite plan. The shape should be pyramidal, as shown in the accompanying illustration, in which the tree is bush form, the lower limbs quite near the ground, and the others short-



FIG. 1074.—DWARF PEAR TREE.

DUCHESS AND TYSON PEARS.

ened in to form a pyramid toward the top. The dwarf pear needs very close cutting back every spring, and if one-half to two-thirds of all young shoots be cut off at that time it is not too much. Our English friends understand this art of cutting back to perfection, and their

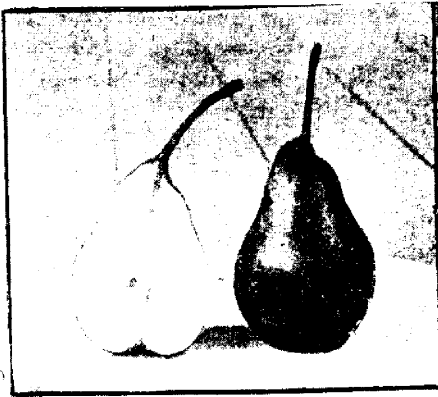


FIG. 1076.—TYSON PEAR.

trees are models to us in this regard.

As a rule the dwarf pear is rather intended for the garden of the amateur than for the commercial orchard; it seldom lives more than twenty years and it dies about the age at which a standard is reaching its best days.

The Tyson pear tree on the other hand is almost always grown as a standard. We have some immense trees of this variety at "Maplehurst," some thirty years planted, and they exceed others of the same age in size and vigor, not even excepting the Buffam. It has the merit of never suffering from blight, so far as we are acquainted with it, it is also a very healthy grower, but rather late in bearing fruit. The fruit is medium size, good quality, but not very attractive in appearance, and therefore it brings a very ordinary price in the market. It ripens about the 1st of September. The tree originated in Pennsylvania.

NEW PORTABLE STEP LADDER.

EVERY new patent that helps to lighten labor, and facilitate the profitable pursuit of any enterprise, deserves encouragement, and, therefore, we do not hesitate to give place to an engraving showing this ladder as it appears when set up. Mr. Harvey Bowman, of Forgy, Ohio, is the inventor, and E. F. Landis, Model City, N. Y., the introducer of it, and it has been recently patented in both the United States and Canada. We find the ladder very easy to handle, and it can be wheeled with ease from place to place, being little heavier than an ordinary wheel-barrow. It is always in shape, and one can carry along the half filled basket from tree to tree, thus saving much time. The ladder is strongly built, the wheels are of malleable iron,

and there appears nothing to go out of order.

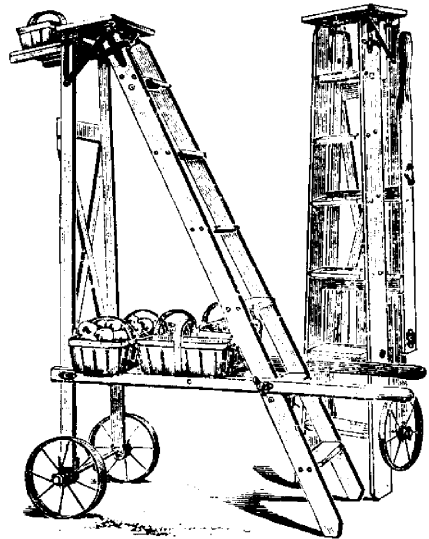


FIG. 1077.—PORTABLE STEP LADDER.

FRAMES FOR HOT-BEDS.

AS stated recently, the time is near for beginning hot-bed work, and as the "frame" must first be prepared it may be as well perhaps to explain how it is made. Common boards and a sash will answer all purposes. Any one with a square, saw and hammer, can construct it for himself. The frame may be from one to four sash in length, the latter being about what can be made from 14 ft boards. The most suitable width to use without waste is 20 inches; allow two for the back of the frame making it 20 inches high, which gives sufficient pitch to the roof to shed rain

ready for use.

Pits for hot-beds are made by taking out the soil to a certain depth and walling up the sides with boards or bricks. On top of the wall, place a wooden plate upon which the sash is to slide. The advantages of a pit are manifold. In the first place filled with manure in the spring it forms the hot-bed. Afterward when the manure is taken out it is a capital place to "summer over" many plants which do not do well exposed to hot, dry winds. Then in the fall it is just the place to grow chrysanthemums, and all winter with proper protection many half-hardy plants can be nicely kept in it. Tough prairie sod may be used for the sides with good effect, provided the land is low and the pit liable to collect water. In the engravings are still other

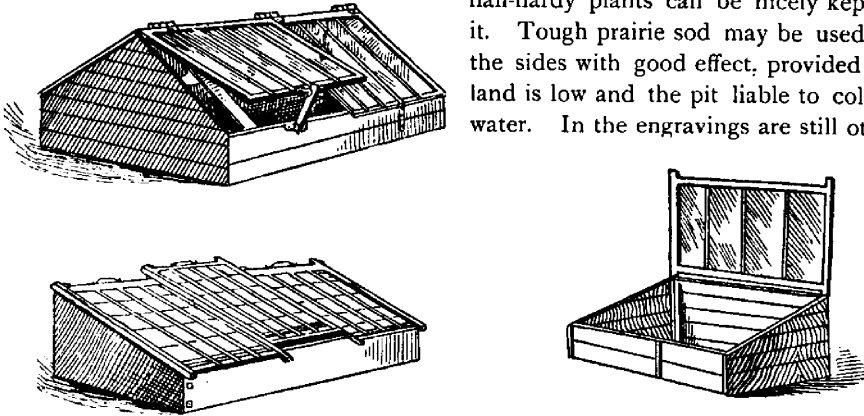


FIG. 1078.—HOT-BED FRAMES.

and collect the rays of the sun. Purchase the sash ready-made from the manufacturers, having it 6 ft long, 3 feet wide, and $\frac{1}{2}$ thick. To make a four sash frame then, we will want four 10 inch boards 14 feet long, one of which must be cut in two equal parts to form the end pieces. Besides this, to secure a strong frame it is better to have at each corner a piece of 2x4 scantling, to which the boards are nailed. Let the end boards project 2 inches above the side pieces to hold the sash in place. Then fasten a strip 3 inches wide and 1 inch thick to each side and to the upper end on a level with the top and bottom boards. This forms a slide upon which the sash rests. Thus we have a homely frame

styles of frames, which for certain purposes will be found very useful. For example, the upper one shows a span shape; that is, it has sash slanting each way and hinged at the top. Such a miniature greenhouse, for summer use, will be found convenient for growing Chinese primroses, cinerarias, calceolarias, cyclamen and similar plants, even azaleas, provided there is height enough, will do finely. In the lower right hand corner is a very modest affair and just the thing to construct for the children's garden. With it they may go through the performances of their elders, and thus find innocent employment, and cultivate a love for flowers and gardening.—Orange Judd Farmer.

THE SAN JOSE SCALE INSECT.

WE are glad that the Niagara District fruit growers are taking active steps to prevent the introduction of this terrible pest into Ontario orchards. It is well known in California as the most destructive insect pest of deciduous trees, and has caused the growers there very great pecuniary loss.

It belongs to the same group of insects with the oyster scale bark louse, but differs in form, being perfectly round. It is flat, pressed close to the bark, which it resembles in color. It is so small that it easily escapes the natural eyesight, and when full grown is only about $\frac{1}{8}$ th of an inch in diameter. It infests the twigs, the leaves, and even the fruit, and when very abundant the latter is utterly ruined by it. It is especially injurious to the Bartlett pear the fruit of which is rendered unsalable by it; and as this is one of our most valuable varieties for export, and the one most widely planted, we fruit growers should be wide awake to the danger.

Figure 1081 shows a Bartlett pear only slightly affected with this scale; while Fig. 1080 shows an adult female,

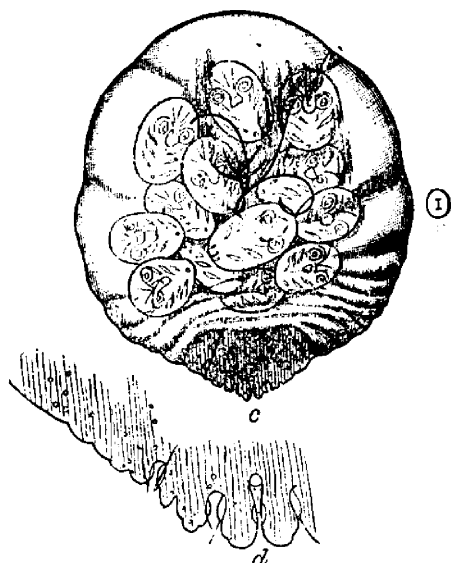


FIG. 1079.—AN ADULT FEMALE.

During the last few years this scale has been spreading rapidly throughout the State of New Jersey, whither it was brought from California, on plum trees; and from Idaho, on pear trees. During the last year or two, it has even made its way into New York State, so that it is time we were alarmed. Our trees and plants come so largely from New York State nurserymen, that we see no way of averting the evil without wholesale measures. The insect is so tiny that it might easily escape inspection at the border, and total prohibition of importation for a time seems about the only sure means of preventing its introduction.

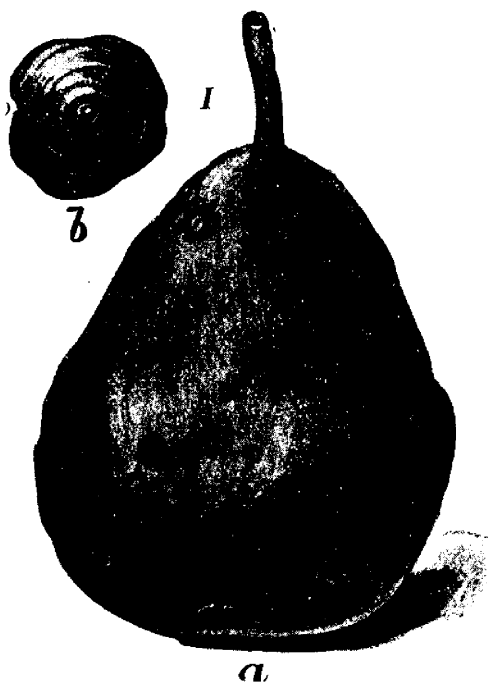


FIG.—1080.—SAN JOSE SCALE; a, pear moderately infested; b, female scale enlarged.

THE SAN JOSE SCALE.

with young, greatly magnified, and at (*d*) the anal fringe, still more enlarged. The little circle at the right shows the real size. The mother louse acts as a shield to protect the young during the winter

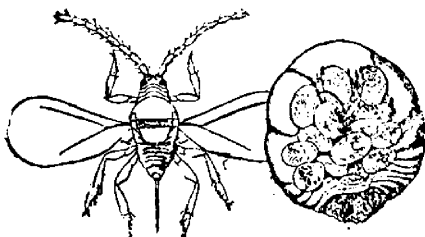


FIG. 1081.

season, and so thoroughly does she accomplish this that the young are safe from any applications until they emerge in early spring, at which time they can scarcely be seen without a microscope.

Fig. 1082 shows the same, and to the left a male adult, greatly enlarged; and Fig. 1083 an infested branch. These cuts will serve to identify this scale, for any one who has even a good hand microscope.

The best remedy appears to be kerosene emulsion faithfully applied in the month of May or June, at the time when the young have come out from under the old mother scale.

In New Jersey it has been found to infest the currant bushes and the quince trees, in addition to the pear and plum, above mentioned. Indeed, where abundant, there is scarcely any plant or forest tree which is exempt. Once get it in Canada, and millions of dollars would not eradicate it, nor would millions equal the loss to our fruit growers. How far north it will live we do not yet know, but we do not wish to experiment with it enough to settle that question.

The writer attended the meeting of the Lincoln and Welland fruit growers at St. Catharines, on Saturday, where a strong resolution was passed advocating

either that all importations of fruit trees and plants from the U. S. be prohibited for a time, or else that all trees for importation be subjected to the most strict quarantine, and not permitted to cross the lines unless the sworn certificate of an expert entomologist can be first secured by the shippers, at his own expense, that the stock has been thoroughly examined, and proved to be free from this scale. We would advise farmers' institutes and other farmers' gatherings throughout the land to pass similar resolutions, and submit the same to the Dept. of Agriculture as speedily as possible.

The following is a copy of the resolution passed at the meeting of Fruit Growers at St. Catharines, and which is approved of by us :—




FIG. 1082.—AN INFESTED BRANCH.

“Whereas authentic information has been received by this Association that the San Jose scale has made its appearance in the orchards and nurseries in the adjoining states of the Union, thereby seriously menacing the fruit growing interest of the Dominion of Canada.

“Be it, therefore, resolved, that this Association respectfully memorialize the Dominion Government to take the necessary steps to prohibit all importation of fruit of kinds known to be infested, and of all fruit trees and currant bushes until such evidence is furnished as shall satisfy an expert that they are free from the San Jose scale.

“And, further, that the Government be memorialized to appoint an expert or experts to examine all such importations, with authority to have them re-shipped out of the country or destroyed, if found to be infected.”

AUSTRALIA A GOOD MARKET FOR CANADIAN APPLES.

 UR readers will remember that in 1895 the Board of Control of our fruit experimental work forwarded one hundred and fifteen cases of Canadian apples to Sidney, N. S. W., via Vancouver. They reached their destination in December, and were looked after by Mr. J. S. Larke, Dominion agent there. Many of them were ruined in carriage, through the extreme heat of the tropics, but those which did arrive in good condition sold extremely well. Some cases of Cranberry Pippins bring about \$3.75 per case of about one bushel.

During the past season a grower in Preston, Ont., forwarded a small shipment of nine cases for experiment, a part of which carried safely and sold for the splendid price of \$4.30 per case! in a season when apples could scarcely be given away in our own markets.

We append Mr. Larke's report on these apples, which is really a portion of his report to the Minister of Agriculture for the Dominion.

APPLES.

I had been advised that a shipment of apples might be forwarded from Ontario as was done last year. If a large quantity were sent I deemed it advisable that they should be placed in cool storage, and placed gradually on the market only as fast as it could take them at good prices, and had arranged for securing the storage in case it were required. None came to my order, but two parcels were sent out by the last steamer. One of nine cases was sent to Mr. F. Winter, who sold those forwarded me last year. They were sent by friends as a gift rather than as a

business venture; but Mr. Winter treated them as a regular consignment. They were a varied lot, consisting of Spys, Snow apples, Baldwins, Russets, and a few "Seek No Furtherers." Three cases had been nicely assorted, but the other six had been more hurriedly got together and packed. They were wrapped half in Manilla wrapping paper, the balance in pieces of newspapers. They were shipped from Preston on the 21st of October, left Vancouver on the 10th of November, and arrived here on the evening of Dec. 4th. They were stowed below decks as was the case last year. The nine cases yielded six of good fruit and three of defective. The Snows carried better than any other variety, there being but thirty-seven defective apples—eleven decayed and twenty-six with some spots—in two hundred and sixty-six apples. The Northern Spys were in the worst condition, and decayed more rapidly after being picked over. In order to make full cases we had to mix the varieties, and sell as quickly as possible. Five cases he sold at 17/6 per case, a sixth of equal value he retained or gave to friends. The results were as follows:—

6 Cases @ 17/6	£5 5 0	
3 Cases @ 1/	3 0	
	£5 8 0	

EXPENDITURE.

Freight @ 4/1 per case..	£1 16 9	
Wharfage	9	
Cartage	8 0	
Picking Over	5 0	
Commission	7 6	
	£2 18 0	
Balance.....	£2 10 0	

This netted the Canadian shipper \$1.35 per case in Preston. The expenses were higher than they would have been in a commercial shipment. The cartage would have been 1/6

AUSTRALIA A GOOD MARKET FOR CANADIAN APPLES.

nstead of 8/0. In such case the net yield to the shipper would have been \$1.55 per bushel. Five dollars were offered for the Snows mixed with the other varieties, and probably eighteen shillings could have been got for the Baldwins. A consignment of Snow apples arriving in as good condition as did these, would have netted the Canadian shipper \$2.65 per bushel case.

The second was a larger consignment sent to Mr. Duffy, a successful commission man. A statement of its financial result cannot be yet given, but it will be an unfavorable one. In the first place, it appears it should have been shipped a month earlier, but was delayed by the strike on the C.P.R. They were in such condition when shipped that they had to be picked over on the wharf. Though provision had been made for ventilating the cases, this was neutralized by lining the cases with paper and failure to put slats on the cases. The apples were not a selected lot, some being very good and properly wrapped and others being not so good, nor properly assorted. It is no marvel that they arrived in a very bad condition, and it is probable that not one-third will be really fairly good fruit. Mr. Duffy's opinion is that if they had arrived in fairly good condition a month ago, he could have got from sixteen to twenty shillings per case. He sold

California apples at eighteen, not nearly so well flavored as these are. He thinks he will get fairly good prices for the marketable fruit in this lot. Medium sized fruit is worth two shillings per case more than the largest. The retailer does not care to ask more than fifty cents per dozen, though he gets proportionately higher for a single apple, hence he requires a considerable number in a case to net him the profit his business requires.

These shipments warrant the conclusion that if properly picked, cased and handled on rail and steamer, Canadian apples can be landed here in good condition. It is just as important to see that they reach Vancouver in good condition as it is to have them cared for on the sea voyage. California apples arrive in so good state that, in many cases, it is not necessary to pick them over.

If the proper varieties are sent at the present rates of freight, it would appear that Canadian apples, arriving here about the last of October, November and December, will bring better net prices than when sent to any other market. I have nothing to add to the recommendations made in my report on the shipment of last year. If followed, they will, I think, ensure a profitable export trade of some dimension.

J. S. LARKE.

Sidney, N. S. W.

BEGONIAS.

Start tubers in small pots in March, do not keep too warm or they will become leggy, 60 degrees is about right. When warm weather arrives turn them out of pots into a bed about one foot apart, place them where they will be shaded in the hottest part of the day and provide plenty of moisture after growth is well started. In autumn take up bulb, dry off, and place in sand in a

dry cool place. If wanted for house or veranda culture plant exactly as above in small pots, but afterwards turn into 8-inch pots with good drainage. In autumn when foliage will have turned yellow, gradually withhold water until the soil is perfectly dry, then put pots in a dry place until following spring, when the earth can be shaken off well and it re-planted.—T. A. W., Napanee.

GRAPE CULTURE IN THE GREENHOUSE AS A PROFITABLE INDUSTRY.

Read to the members of Niagara Falls South Horticultural Society.

Mr. Chairman, Ladies and Gentlemen,

As you have desired of me a paper on something pertaining to Horticulture, I shall endeavor to give my experience in growing in-door or Foreign Grapes. In going through a rose house at Niagara Falls, my attention was drawn to the beautiful buds and flowers, and I thought to myself, could this branch of horticulture be profitable, after deducting the heavy expense in coal, material and labor? It is certain that people have a craze for beautiful flowers; some will buy to dress their table with, others their parlor, others to give to the sick, etc., and I have no doubt but that they have acted their part of drawing the observer nearer to the Creator of all good.

I knew one gentleman that would not eat his breakfast without first going out to cut some flowers for his table, and he had a particular fancy in dressing the butter with flowers, generally a flower for each member of the family.

Flowers are so beautiful, and costly at this season of the year, that only those with a fair income can buy such luxuries. The cry with the most of florists is dull times, no sales, etc., but still the florist's expenses are always the same—he must grow the material whether he can sell it or not—and because it is work that is pleasing to the eye, the florist has lots of opposition on every side of him; when he improves his place in the way of getting up expensive greenhouses, his neighbor says, there must be money in growing flowers, and his neighbor does likewise, until they are at loggerheads with one another; at least I cannot see how they can be

otherwise. Now, to remedy this a little, I would propose that some should turn their attention to the growing of grapes in some of the best establishments. I think they can be grown along with the roses, in the same house, but better by themselves. Procure some cuttings from some foreign vines, such as the Black Hamburg, the Rose Chasselas, the White Frontignan and the Grizzly Frontignan; cut them to one eye cuttings, place them in sand, slightly covered, in a warm propagating house; when the plants are rooted, pot them into small pots and shift until they are into ten-inch pots. Grow along the roof of the propagating house, on a wire, and only leave one cane to each plant. In this way, if the house is suitable to their culture, and providing the vines are cared for in the proper way, in their full season's growth the canes ought to be about from 15 to 20 feet in length.

The next operation is to ripen off the canes, which have been growing during the most of the winter months, and after they are ripened off, they may be started when desired by the grower; after they get their final potting into 15-inch pots, into a rich compost such as you would use for growing roses in, in a rose house, and treat almost the same. After the vines get the final potting into the 15-inch pots, cut back the cane to 8, 10 or 12 feet, according to the strength of the cane; then take a 6-inch pot, take the end of the cane through the hole in the 6-inch pot from the outside, draw the cane through until the small pot is sitting on top of the large one, then fill this pot the same as the large one; then curl the canes

GRAPE CULTURE IN THE GREENHOUSE.

round stakes in the big pot to make the lower buds start, and your plants are ready to put into the forcing house, such a house as you would force roses successfully. Syringe the vines twice a day, morning and evening, until all the buds are started, then tie up to the roof as before. As soon as the fruit shows and you can determine the best bunches, rub off every one, branches and all, but 8, 10 or 12, according to the strength of the vine. There have been 14 bunches grown to a vine in an 8-inch pot, $\frac{1}{2}$ lb. each. When the vine is in flower do not syringe; after flowering, when the fruit is set, treat again the same as the forced rose, until ripe, when you can cut the vine under the small pot, away from the large one. Place a few neat stakes into the small pot, tie the other vine round them, and you have the vine ready for the dining room table, in the pot—fruit, leaves and all.

Supposing you could now supply this fruit in the early spring months on New York market, would it not pay? I think so; and my neighbor could supply the roses to dress the table with; this way we would be helping one another in the good work.

Now to those that think the pots, etc., too much trouble and expense, I would suggest, after the canes are grown and ripened off, take a first-class rose house, such as Mr. Dunlop's in Toronto, as they are laid off in tiers of shelves or benches. The benches I would make about 12 or 15 inches deep, then plant the vines in them, about the time for planting the roses to force, and treat them as mentioned for pot culture above. And I may say here that, if possible, have a pipe running lengthwise with each of the benches, close up below them, as the vine will stand as high as 150 degrees at the

root, and the fruit will be all the finer flavored for it.

I have grown the grape this way in Scotland and shipped the same to London, England, the weight to a bunch about $\frac{1}{2}$ lb., which ought to bring the grower a handsome return. I have sold the in-door grape in Toronto at 75cts. per pound in the month of June. Now suppose you had them in the months of March or April, and I cannot see how they could not be had at this date.

I think I will try this mode of culture when we get the power from the Falls, and I will be able to heat with electricity, and then I hope to see the industry of grape culture, in-doors, as successfully carried out as the rose culture of to-day, and our markets as well stocked with the foreign grape as they are to day with apples.

I hope to see the above treated on by some one before long, and if I can give any more information that I have omitted, I will be most happy to do so.

I may say here, that the vines are only supposed to be fruited once, when they may be thrown on to the rubbish heap. Therefore it is necessary to be prepared with a fresh stock of young vines every year to take the place of the old ones, just as is done with chrysanthemums or roses. In fact, if the care is given the foreign grape such as is now given to the rose or chrysanthemum in such houses as Mr. Dunlop's and others in Toronto, there is no fear but that success will follow, and in particular, if grown on benches, like the rose.

Peruvian guano is a good stimulant for the vine; after the fruit is set, a handful to an ordinary can of water.

RODERICK CAMERON.

Niagara Falls, Ont.



❖ Flower Garden and Lawn. ❖

GLORY OF THE SNOW.



FIG. 1083.—*C. LUCILIAE*

ONE of the handsomest early spring flowers that has been lately brought into cultivation is *Chionodoxa Luciliae*, or *Lucilia's Chionodoxa*. The genus gets its name from *Chion*, Snow and *doxa*, glory; a name given from its habit of flowering so early in the spring in its native habitats, almost before the snow has all melted away. The genus belongs to the lily family, and is a small one, hav-

ing only three known varieties, viz., *P. C. cretica* (Cretan) which has white or pale blue flowers, and comes from the mountains of Crete.

C. nana (dwarf) with white or lilac flowers, also from Crete, and

C. Luciliae, which forms the subject of this sketch. The flowers of this beautiful variety are from 3 to 6 in number, sometimes more, growing on a stalk about six inches in height. The petals are deep blue at apex, shading off to pure white at the base: the leaves are narrow, linear and upright. This variety comes from Asia Minor, where it was introduced in 1877. It is quite hardy, and will succeed in an ordinary border, unless the soil is too wet or heavy. It blooms very early in the season, along with crocus and snowdrop, and in company with these in various color, makes a beautiful display upon the lawn. The bed should be composted of leaf mould and sand; and young bulbs, after planting, should be left to grow undisturbed for three or four years.

C. Luciliae also succeeds well in pots, if treated like the hyacinth, by keeping it in the dark until it makes good roots, and then bringing it to the light, and growing it very near the glass, without too much heat.

SOME GOOD HERBACEOUS PERENNIALS.—II.

(Continued from page 68.)

Asclepias tuberosa—Butterfly Weed.—There is nothing about this plant to recommend it except the flower, the stem and leaves are hairy and coarse looking, and it is not at all ornamental in habit, but it is well worthy a place in the border for the splendid and unique color of the flowers.

It is closely related to the common milkweed, the flower is about the same size and grows in the same style, but the color is a most intense and brilliant orange. It grows about 1½ to 2 feet high and is perfectly hardy, in bloom June and July. Thrives best in a dry and sunny place, grows wild in western Ontario in dry sandy or stoney fields.

Valeriana officinalis—Garden Heliotrope.—Gets its common name from the great similarity in perfume and outward appearance of the flower to the heliotrope, though not related to it in any way, and not at all like it in habit of growth.

A perfectly hardy perennial, not particular as to soil or location, will thrive anywhere, common in Old Country gardens, and well worth growing if only for the delicious perfume. Spreads rapidly, and easily is propagated by division in spring or fall; the root leaves about a foot long, are very much divided—botanically, pinnatisect—the flower stems about 3 feet high, sparingly leafy, terminated by a large flat cluster of small flowers, pale lavender pink outside and white inside, in season from first half of June to middle of July.

Campanula carpathica—Bellflower.—Of the many species of campanula in cultivation, one of the most satisfactory is *C. carpathica*, especially suitable for the front of the border, as it forms compact mats of very pretty foliage about 7 inches high, the leaves about 1½ inch long are ovate heart-shaped on long petioles; the flowering stems, leafy below, are numerous and branching, each branch terminated by a large broadly bell-shaped blue flower on naked peduncles, very convenient for cutting; flowers about 1½ inch across, in bloom from June to September.

C. c. pallida is a very pale blue variety.

C. c. alba is pure white.

Aquilegias—Columbines.—Of this very variable and beautiful genus we have a fine representative in our wild columbine, *A. Canadensis*—often called honeysuckle by children—which is well worthy of a place in the garden border; it succeeds best if not too much exposed to the sun. On its native hillsides, the finest clumps are found in partially shaded situations and in rather light soil. The handsome scarlet and yellow flowers are freely produced in May and June.

A. Vulgaris, the columbine of Old Country gardens, is a very variable species. A strong robust grower, with flowers in all shades of blue, purple, red and white, single and double. Thrives in any situation or soil. It is so very susceptible to cross-fertilization, that it is almost impossible to get it to come

SOME HERBACEOUS PERENNIALS.

true from seed, and fine varieties have to be increased by division of the roots.

A. chrysantha, from California, is one of our very finest hardy perennials; the yellow flowers are very large, about 2 inches across, with divergent spurs 2 to 3 inches long; they are held well above the leaves on long branching stems. In season from May to August.

A. cærulea is another long-spurred species from the Pacific Coast, with blue and white flowers; there are many hybrids between it and *chrysantha*, larger than their parents and in great variety of color.

Delphiniums—Larkspurs.—There are no plants better suited for a background to the garden border than the tall perennial larkspurs. Of these there is now an immense variety of hybrid forms, some dealers listing over 100 named varieties in white, pink, red, palest to deepest blue, lavender and yellow. They have quite supplanted the old specific forms, being larger in flower, closer and longer in the spikes, and finer in colors.

As it comes somewhat expensive to purchase a good collection of named varieties, most growers prefer to grow them from seed. If a package of the best seed is planted in May in rows, you will have all the plants you want to transplant to their permanent quarters the following spring; or better still, let them flower in the seed bed, then carefully select the finest specimens and you will soon have as good a collection as if you had bought the high-priced named sorts.

They vary much in height—from 2 to 6 feet—in length of spike, and season of bloom.

I had a constant succession last summer from early in July to end of October. If the spikes are cut off the early flowering sorts when the flowers open,

they throw out new shoots that blossom later.

Aconitum Napellus—Monk's Hood.—The genus *Aconitum* is a very large one, no less than 63 species, besides many varieties, being described in Nicholson's Dictionary of Gardening, all flowering in terminal racemes and varying in color from white to deepest blue and purple. The best known and most widely cultivated species is *A. Napellus*, with deep blue flowers, and the variety bicolor with deep blue and white flowers, both grow from 4 to 6 feet high, and make good companions for the tall *Delphiniums* at the back of the border. The foliage resembles that of the *Delphiniums*, but the flowers are quite different in shape, and are produced in much greater profusion. They are very irregular in form, the upper sepal being much larger than the others and covering the rest of the flower like a monk's cowl or hood, hence the common name. They are perfectly hardy and will thrive anywhere, even under trees or in shade of fence or house, apparently requiring less sunlight than most other flowering plants.

The roots are extremely poisonous and should not be left lying about; though not at all like it, they have been mistaken for horseradish.

Enothera Lamarckiana—Evening Primrose.—Or more correctly, *Æ. biennis*, variety *Lamarckiana*, a large-flowered form of our common wild Evening Primrose. Though generally sold as a perennial, it is really only a biennial, requiring annual planting of seed to secure flowering plants every year; once started, however, there is no trouble in getting new plants, as seed is produced in great abundance and new plants grow up all round the parent one. The first season the plant is a

THE WINDOW GARDEN.

rosette of long narrow leaves lying on the surface of the ground, from the centre of which the leafy branching flower-stalk emerges the following spring. When about 2 feet high, flower buds form in a dense cluster at the end of each branch; as the branch grows the centre buds are carried forward, leaving the outer one distributed along the stalk, two to four of which mature and open every evening. The flowers are a beautiful lemon yellow, broad bell-shape, about $2\frac{1}{2}$ inches across, opening at sunset and remaining open till about 9 a.m. next day, or later if the morning is dull. The unfolding of the flowers each evening is a never-failing source of interest; during the day the calyx of the long bud splits lengthways in two or three places,

showing the color of the corolla remaining attached at the top till sundown, when the splits extending to the top of the bud, the sepals reflex with a sudden snap and the flower slowly unrolls being fully opened in about a minute; the first ones open slowest, but as day, light fades away, they open more rapidly, till all are expanded. A well-grown plant is from 5 to 6 feet high, with side branches 2 feet long and is a grand sight when in full bloom.

The number of flowers produced by such a plant is very great. I had a clump of three plants that frequently had 150 flowers open at once. The season lasts for over three months—from July to October.

Ottawa.

R. B. WHITE.

(To be continued)

THE WINDOW GARDEN.

AT this season of the year the plants in the window garden will, if they have been properly cared for during the earlier months, be making a vigorous growth. This growth should not be so rapid as to result in weakness later on, as it will be pretty sure to unless great care is exercised. All conditions will be favorable to the development of the plants, and a little unnecessary urging will lead to overdevelopment, if that term is allowable. In other words, it is very easy to overdo the process of encouragement by mistaken kindness. In order to keep the plants from making too rapid a growth, the temperature of the room in which they are kept must be regulated to a nicety. Do not let it get above 70° during the warmest part of day their

you can prevent it. At night it can be allowed to go as low as 55° without injury to tender plants. See that an abundance of fresh air is admitted daily. Now that the plants are growing well, more air will be needed than when they were at a standstill. The importance of giving plants pure, fresh air in liberal quantities every day, is not sufficiently understood by amateur floriculturists. The lack of it accounts in a large degree for the frequent failures we come across in the window garden, where conditions, as ordinarily considered, seem favorable to the satisfactory culture of house plants. When the amateur florist understands that a regular supply of fresh air is as necessary to the healthy development of plants in the window as water is, we shall see better specimens there.

THE WINDOW GARDEN.

Care must be taken about the amount of water given. Only enough to meet the requirements of the plants should be furnished, but it should be borne in mind that plants, when actually growing, require a great deal more than when dormant, as most of them are during the early part of the season. At that time, too, we are likely to have but little sunshine, and that not strong; therefore the plants really need but little water. But as soon as growth begins, and the days lengthen and the sun strengthens, more must be given, or the plants will suffer. Watch the soil in the pots. When the surface becomes dry—and not before—give another supply, and let that be liberal enough to thoroughly saturate all the soil in the pot. It is not necessary that it be warm, but if procured from well or cistern, see that the chill is taken off, by allowing it to stand in the room where the plants are for half an hour before using. As soon as a plant begins to grow—and before as a general thing—the amateur florist is quite sure to want to help it along by applying a fertilizer of some kind. This is all right if done judiciously, but as a general thing sufficient care is not exercised in this respect. Too much food results in a forced, unhealthy growth, and the plant, instead of being benefited, is greatly injured, and often dies in consequence. Therefore use judgment in the application of any fertilizer. Let it be weak at first, and watch results. If the plant put out fine, well-colored foliage, and the branches are plump and vigorous, be content. Such a growth is better than one characterized by great overgrown leaves and

slender, long-jointed branches. Some plants can stand more fertilizing than others, and some require more. Study the habits of your plants until you learn their peculiarities, as you do those of persons. These understood, you can give the individual treatment necessary without the uncertainty of results which comes from experimenting. Unless you do understand your plants, all your work among them will be largely experimental. This the florist who would be successful must avoid as far as possible. He must be sure of himself as well as of his plants, and this feeling of security can only come from intimate acquaintance with their individual peculiarities. Unless your plants are growing, do not give any stimulant. Plants in a dormant condition cannot make use of rich food. The unthinking amateur florist sees that his plants are not growing, and does not stop to find out why, but argues that the application of fertilizers increases growth in plants as a general thing, and acts on this belief, applying strong food to them. He expects to see them start into immediate growth, and is surprised when they seem to be languishing instead. If he goes to work to find out the whys and wherefores of floriculture, he will soon satisfy himself that applying manure to a plant that is trying to rest is a dangerous thing to do. Let the plant alone until it gives evidence of again being in working condition, as it will by beginning to grow. Then use your fertilizers, but use them with care and judgment always. It is as easy to overfeed a plant as to starve it, and just as harmful. — American Agriculturist.

THE GREENHOUSE.



ONE of the greatest causes of failure in the amateur conservatory, is the attempt to grow under one temperature those plants requiring hothouse, intermediate, and coolhouse conditions. Greenhouse or intermediate should have a night temperature of sixty degrees, and while five degrees lower at intervals, will do no harm, yet, if recurring too frequently, many plants will receive a check in consequence. We are also supposed to raise the temperature five or ten degrees in the daytime, but during the dark days of mid-winter this will produce weak growths, in danger of falling a prey to disease and insect pests. Strong, vigorous plants are the best remedy, or rather preventive for these evils, which to-day mark the success or failure of all florists and horticulturists, from the window garden to the most extensive acreage.

A sun temperature of eighty or even ninety degrees will do no harm, care being taken to water all plants requiring it in the morning, as the heat advances above the firing point.

Another cause of failure is the fact that amateurs do not know the varieties in many sections of plants offered by the trade, best suited to the conditions they are able to give, as there are palms, ferns, orchids, etc., that cannot be successfully grown under a less temperature than seventy degrees at night. My experience, has been when selecting such varieties, that although opposite the name of each in my order list was the note, "If not suited to sixty degrees fire heat do not send," they always came. This was costly experience, to me in the loss of value, and to the plantsman in the loss of an enthusiastic client.

Advantage should be taken of all

bright days to renew the supply of air by ventilation, always using care to avoid chilling the plants by cold draughts. Close the ventilators early to retain some of the sun heat, it is cheaper than fuel.

Some of the plants best suited for conservatory or intermediate treatment, are the palm, dracena, banana, ficus, yucca, grevillea, ferns, seliganella, calla, begonia, canna, cissus, aspidistra, croton, hibiscus, pandanus, tradescantia, azalea, heliotrope, stephanotis, vinca, rose, nasturtium, manettia, a few cyripediums and other orchids, never forgetting to add several species of the *Platycerium* or Stag's Horn fern, a parasite, which like true orchids can be easily grown on virgin cork, and never fails to interest even experienced visitors. In palms, *Latania Borbonica* and the *Kentias*, *Belmoreana* and *Fosterana*, will give best satisfaction. *Cycas revoluta*, kept on the dry side during the winter, is an attractive plant and useful in table decoration. Do not attempt to start the dormant stems as imported from Japan, unless a temperature of eighty degrees bottom heat, and seventy top can be given. I find it most interesting work forcing these in a compartment prepared for such work.

The following species of *Platycerium* are distinct in form and easily grown, *alcicorne*, *Willincki*, *majus*, *Ethiopica* and *grande*. Never allow the root to become perfectly dry, at the same time do not over water, as for all ferns moderate continuous moisture and good drainage must be given.

Musa Ensete and *Cavendishi* are the best bananas, the former makes a grand bedder in tropical decoration, and the latter will fruit by the time it is potted to a half barrel. During the spring and

THE GREENHOUSE

summer the shady side of their stalks is a good place for the *Platyceriums*, making a most effective arrangement.

Cannas may be brought from the garden in clumps and bloomed during the bright days of early winter, then dried off until February or March, when if divided and repotted, will furnish their brilliant flowers until required for outdoor bedding; the foliage is always valuable for its tropical effect. If the canna has failed as a greenhouse bloomer, it is because this treatment has not been given, and that varieties have been used of close relationship to the species, which are not suitable for forcing. Light, heat, rich soil, and root moisture, are necessary for great success with the canna at all times, given these, no plant will more amply repay the attention and labor bestowed.

If ample root room is given to the *Manettia* vine it will prove a rampant grower, and give a mass of bloom all winter. The secret of growing nasturtiums to perfection is just contrary to *Manettia*, the roots must be confined, but in order to supply the necessary moisture when in blooming position, these must be allowed to grow through the drainage hole in the bottom of the pot, and ramble in the moist sand, covering the greenhouse bench. Liquid manure should be supplied to the pot twice each week during blooming. Under the above treatment the nasturtium can be grown from six to ten feet high, producing hundreds of blossoms at a time when flowers are scarce. Grown in the cool section it will not make as large plants, but this gives a succession for a few weeks later. I prefer growing from cuttings, which root easily in pure sand. These can be selected from the most beautiful varieties, in late summer. After rooting, plant in small pots, shift as growth

advances until blooming size, say five or six inches is reached by early winter.

There are no more satisfactory plants than a few *cyripediums*, which are of easy culture potted high in *Sphagnum* moss well drained with fragments of broken pots and charcoal. The flowers often remain open for three months, and are very attractive. *Insigne*, *Sedeni*, *longifolium*, *villosum* and *Harrisianum*, should be the first selections for the amateur collection.

One of the greatest mistakes made by the owners of greenhouses, is the custom of emptying them for the summer months, as at this season they may be filled with bloom of the *Tuberous Begonia* and *Gloxinia*, two of the most beautiful flowers we have, and which can only be brought to perfection under glass. They should be started in early spring, and grown near the glass which must be whitewashed lightly, until the buds show color, they may then be moved to a cool and more shady position for blooming. The *Begonia* may be started in small pots and shifted as necessary, but the *Gloxinia* should be placed in the blooming pot at once, the diameter to be about two inches greater than that of the bulb. These plants can be easily grown from seed, if proper care is exercised during the early stages of their development.

There is one point in connection with greenhouse work, in fact potted plants wherever grown, that I cannot pass without comment, and that is the important operation of watering, for on this hangs the whole issue. No matter how perfect may be the building and appliances in all mechanical detail, no matter how skilfully and correctly the potting may be done, and no matter how much care may be exercised in firing and ventilation, the fate of all labor, expense, and attention, depends on how the watering is done. That I am not making too

CARE OF HANGING BASKETS IN WINDOWS

much of an apparently simple operation may be seen by the following. A visitor to the greenhouse of one of the most successful florists in America, was surprised to find the proprietor engaged in watering. In reply to the suggestion that he might let one of the boys play with the water, he replied: "When he can do this, he knows it all." I am frequently asked how often a plant should be watered, and always reply: "There is only one rule for all plants,

and that is when it is needed." The successful grower of pot plants must, after mastering the principle of watering, learn to apply it to the varying conditions and requirements of a mixed collection with intelligence.

But this is a question of too great possibilities to be combined with the subject under consideration

H. H. GROFF.

Simcoe, Ont.

CARE OF HANGING BASKETS IN WINDOWS

BE sure to see that suspended plants get enough water. Most persons complain that they "haven't much luck with hanging plants." In nine cases out of ten, the fault is their own. A plant suspended at the height of one's head above the floor is in a stratum of very warm air where evaporation will take place with great rapidity, and unless water is given frequently and in liberal quantities, the soil in pot or basket will be very dry before you know it.

The best plan I know of for keeping the soil in baskets evenly moist is this: Take a tin can and make a small hole in its bottom. Fill this with water and set it on top of the soil in the basket. By watching developments a little you can tell whether the hole in the can is too large, too small, or just the right size. It should be of a size to allow enough water to escape to keep the soil moist all the



FIG. 1084.—HANGING BASKET.

time. It is much easier to fill this can daily, or oftener if necessary, than it is to apply water to the surface of the soil and have enough soak into it to penetrate all parts of it. The foliage of the plant can be so arranged about the can as to effectually conceal it.



* Our Affiliated Societies. *

ADVANTAGES OF AN AFFILIATED HORTICULTURAL SOCIETY.

SIR,—Will you have the kindness to send me information as to the means of forming a Horticultural Society in this place, with particulars as to the advantages offered to such societies?

J. W. GORDON, *Brighton.*

The great advantage of an affiliated society is that it aims to give every member equal benefit. In the old plan the money was all spent in prizes for a few, and there was nothing left to carry out the other important provisions of the Act, viz: (1) Giving members horticultural reading; (2) distributing valuable seeds and plants among members; (3) holding lectures on horticultural subjects. Affiliated societies get all these from the Ontario Association, and in addition have money to supplement each of these good things.

CUPID SWEET PEA.

SIR,—I see in January number that the Cupid sweet pea is a failure. At our horticultural show last fall the Cupid sweet pea was exhibited, and of course admired, as it was new; but some one interested cut a bunch of the Herbaceous pea, and as it has no perfume, they were taken to a drug store and perfume put on to them, and was then named Cupid's Brother, and it was fun beyond a doubt to see every one take and smell this bunch and admire the Brother more than Cupid.

R. CAMERON, *Gardener,*
Niagara Falls Park.

DESORONTO.—Mr. D. McClew, Secretary Desoronto Horticultural Society, writes that the local paper, the Tribune, is devoting one column to the interests

of the Society, and that in this column is published the papers read at the meetings of the Society, and also any special contributions from the members. The first paper contributed is given below on "The Carnation as a House Plant."

THE CARNATION AS A HOUSE PLANT.
—Possibly of many kinds of plants the carnation is least fitted to be a room plant. Few things are so sensitive in regard to an abundance of light. Florists who raise carnations under glass always choose the brightest and best houses for them. Outside the lack of light there is no other trouble more than falls to any other plant. Seed may be sown under glass in the spring, or in the open ground, they will flower the second summer. Some will prove single and others semi-double. Young plants are perfectly hardy, but when old are injured in the winter. A succession of plants should be procured, either from seeds or from layers each year. Layering should be done in mid-summer; this is simply cutting a slit in a young shoot to obstruct the sap. Remove the earth a few inches in depth, and press down the branch so that the slit will open, and then cover with soil. Roots will push out where the cut was made, and thus a new plant will be formed. Carnations like a night temperature of 55 degrees. If wanted for winter blooming keep all flower shoots pinched off up to the middle of August; pot up first of September; do not use too large pots; shade and spray until established, then give all the sun you can and spray every sunny day. The carnation is the most magnificent of all the Dianthus family. Flowers large, beautiful and delightfully fragrant.

AFFILIATED SOCIETIES.

TOWN OF DURHAM HORTICULTURAL SOCIETY.—This is a new but most flourishing Society, which has already sent in over eighty names. On the evening of the 5th of February, a lecture was given this Society by Mr. A. McD. Allan, of Goderich, representing the Ontario Fruit Growers' Association. The Directors have issued a circular to their members, informing them that they are entitled to a certificate of membership with us, including our Journal, report, and plants; and also giving them a choice of the following which are distributed free by their own Society, viz.: 1st choice to include 28 bulbs, etc., as follows: 12 gladioli, 12 packets flower seeds, 2 cannas, 1 Tuberosus begonia, 1 geranium: 2nd choice, 9 plants as follows; 3 coleus, 1 heliotrope, 1 Swainsonia, 1 Acharanthus, 1 Abutilon, 1 Gloxinia, 1 Sanseveria Zealandica: 3rd choice, 8 plants as follows: 2 Downing gooseberry, 4 Red Cherry currants, 2 Columbian raspberry. In addition to this the intention is to distribute hyacinth bulbs next autumn to all members, without farther cost, and to hold a horticultural exhibition during or about the first week of September next. The circular is signed by

WM. GORSLINE, *Secretary*.

GRIMSBY.—Our Society numbers fifty-six members. In addition to the plant distribution by the Ontario Society, we intend giving each member five potted chrysanthemum plants of different colors, which are now being grown by a florist for us. He will advance them to five inch pots, and deliver them May 1st; we feel sure we can then have them in bloom for our show in November. We are advertising a lecture by Dr. Beadle on the second of March.

E. H. READ, *Secretary*.

COBOURG HORTICULTURAL SOCIETY.—A numerous attended meeting of Cobourg citizens who take delight in the culture of fruits and flowers, was held in the town council chamber on Wednesday evening, February 10th, at 8 o'clock. The chair was ably filled by Mayor Hayden, who stated that the object of the meeting was to consider the advisability of organizing a Horticultural Society in this town. The chairman pointed out the special advantages to be derived from such a society in our midst and explained that the members, as a body, would be affiliated with the Ontario Fruit Growers' Association, and entitled to a grant of \$140 annually from the Ontario Government. Each member would receive the Horticultural magazine, with the choice of a valuable premium, and additional plants or bulbs from the local Society. Besides this, free lectures will be delivered to the society from time to time by the best garden and orchard experts to be found in the Province. Mr. John Fisher then moved, seconded by Mr. D. H. Minaker, that this meeting organize a society, to be called the Cobourg Horticultural Society, according to the provision of the Ontario statutes regulating such societies. This motion met with the approval of the audience and was unanimously carried. The following officers were then elected:—President, Mayor Hayden; 1st Vice-President, John Fisher, Esq.; 2nd Vice-President, Col. Skill; Secretary, Major Snelgrove; Treasurer, J. G. Orr, Esq.; Directors: Prof. L. E. Horning, Messrs. A. R. Hargraft, E. Denton, E. J. Baker, Mrs. J. W. Kerr, and Mrs. Hayden. The election of three additional directors was deferred until the next meeting of the society, which will be held about the middle of February. Already fifty names have been enrolled as members.



The Canadian Horticulturist

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 are at our risk. Receipts will be acknowledged upon the Address Label.

ADVERTISING RATES quoted on application. Circulation, 4,000 copies per month.

✧ Notes and Comments. ✧

VICTORIA, NOT FAY.—Mr. Porter says that page 39 where it reads "dug up Fays," he meant to say "dug up the Victoria currant."

PHOTOGRAPHS.—We renew our request for interesting photographs of new fruits, flowers, shrubs, trees, gardens, homes, walks, etc., and notes concerning them. We do not agree to engrave everything sent in, but the more deserving will be selected to appear in the Journal from time to time.

ANOTHER FREAK.—We have just received from Mr. John Bain, Fergus, an apple grown at Harriston by Mr. Thos. Grills, which is another instance of cross-fertilization showing results in the fruit the same year. The apple is Canada Red, and one quarter is distinctly marked with some distinct variety. The quarter thus fertilized is larger than another part of the apple.

OUR FEBRUARY number brings still more numerous compliments than the January number. The Executive Committee appreciate the kind words, but it costs money and hard work to make

these improvements; and we expect to see a vigorous push for new subscriptions all along the line. Won't every reader exert himself a little in our interests, for our readers will receive the benefits if we have larger patronage. We published 5,000 copies of February No. The mailing list alone requires nearly 4,000.

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.

OUR ENLARGED JOURNAL.—We are receiving kind words of approval over the improvement in this Journal from many sources. We quote the following from the Daily Globe: "THE CANADIAN HORTICULTURIST appears in an enlarged and improved form with the January issue, and contains several unusually interesting features. A special article dealing with the meeting of the Ontario Fruit Growers' Association at

NOTES AND COMMENTS.

Kingston is well prepared and suitably illustrated with half-tones of Kingston, views and photos of the leading speakers and others, also several of Kingston's public buildings, and a view of the city. The front of the issue contains a handsome colored plate of a pink rhododendron. The number is well filled with interesting matter relating to fruits, flowers and forestry, and is, perhaps, the best issue of the kind ever brought out in Canada."

THE NOVA SCOTIA APPLE BARREL.—We are in receipt of a letter from The Annapolis Mfg. Co., stating that the Nova Scotia fruit growers have adopted the following measurements for their apple barrel, and have decided to approach the Legislature, asking that these dimensions be the recognized standard of the Province, viz: stave, 30 inches; distance between heads, 27 inches; diameter of head, 17 inches; diameter of barrel at bulge, 19 inches; making the distance 27 inches between heads instead of from croe to croe, as laid down by the Dominion statutes. This prevents the use of various thicknesses of heading by the cooper. The New York State and Michigan barrel is three inches shorter than the Canadian, the stave being only twenty-seven inches in length.

PROF. CRAIG, of the Experimental Farm, Ottawa, will visit Cobourg under

the auspices of the Horticultural Society, and deliver a lecture in the Court Room on the evening of Friday, February 26, at 8 o'clock. The lecture will be illustrated by stereopticon views. Subject: "How to Beautify Home Grounds." There will be no charge for admission, and the public should avail themselves of the opportunity to hear this popular lecturer.

COLD STORAGE TRANSPORTATION FOR FRUIT.—The Department of Agriculture has decided to place a small experimental cold storage warehouse at Grimsby, instead of three houses at three points, for the cooling of fruit for export until placed on board the refrigerator cars. St. Catharines, Burlington, Winona and Grimsby were all claimants for this warehouse, but the interests of all are equally served wherever it is placed, providing the work is well done, and the English market for our tender fruits thoroughly tested. It is proposed to forward one or two cars each week during fruit season, and the growers at Grimsby have undertaken to furnish the fruit. If the experiment proves a success, they agree to take over the warehouse at the end of three years at its appraised value.

Should the enterprise prove successful, no doubt every fruit section will erect a warehouse for itself on the same plan as this one, which has been designed for the purpose at Ottawa.



✧ Question Drawer. ✧

An Iron Bolt in an Apple Tree.

911. SIR,—I have two large apple trees, split at the crotch about twelve inches. The big top was very heavily loaded. I put an iron bolt through the tree, and tightened it up. Will it injure the tree?

No, the bolt will not harm the tree or its fruit.

Ashes.

Reply by C. W. Young, Cornwall, to Question 905.

I think it would be a mistake to put much ashes, leached or unleached, on clay soil, as it would make it harder. On sand it is all right. Coal ashes are much better for clay, as they break it up. Old mortar, chips from an old wood yard are excellent. Such soil should be dug up very rough so as to get the action of the frost on it in the winter. That will soon mellow it down.

Blackberries Drying Up.

912. SIR,—Is it usual for the blackberry to dry up on the bushes or is it just on our limestone soil, that it does this?

W. J. McK., Selby.

With us at Grimsby, the blackberry does not dry up on the bushes, unless in extreme drouth. We have considerable lime in our soil also; but it is a deep, moist, well-drained sandy loam. On heavier soils, the blackberry does not succeed so well.

How to Treat Strawberry Runners.

913. SIR,—Should the runners be kept cut off strawberries the forepart of the first season after planting?

W. J. McK., Selby.

It is advisable to cut off all blossom buds, and all runners until about the first of August, on newly set plantations, after which each runner may be allowed to make about one plant.

Kieffer Pear.

914. SIR,—Would the Kieffer, be a good stock for top-grafting other varieties, and is it a profitable variety itself?

W. J. McKim, Selby.

We have not tried top-grafting the Kieffer, but from its vigorous habit of growth, its healthy wood, and hardiness, we would judge the Kieffer would be a capital tree for top grafts.

Regarding the profit of growing the Kieffer, it is almost too soon to reply. So far, it is profitable, notwithstanding its poor quality. It may be kept well into December in ordinary conditions, and takes on a beautiful golden-yellow, and this with the red cheek it frequently possesses, makes it a very beautiful pear.

It is thought by some that it will be a valuable variety for export, being a good keeper, and not easily susceptible to bruises.

Planting Strawberries.

915. SIR,—When is the best time to plant strawberries, and which are the best varieties for this section, North Simcoe?

D. BOLDER, Collingwood.

Plant in spring as soon as you get the plants; or if not quite ready when plants arrive you may heel them in carefully—packing the earth well about the roots, and so hold them till your ground is in thorough cultivation. Success with strawberries depend largely upon cultivation and manure.

Haverland, Bubach, Clyde and Greenville are excellent varieties. Usually the kinds that succeed with us in the south, do equally well in Simcoe; for the snow protects them so well in northern sections.

Pollenizer for Northern Spy Apples.

916. SIR.—Please tell us what variety of apple would be best to furnish pollen for a Northern Spy orchard, and how many trees would it be necessary to graft in an orchard containing 9 dozen trees?

MORLEY HAWKESWORTH,
Medina, Ont.

Reply by Mr. John Craig, Ottawa.

So far as I am aware it has not been satisfactorily proved that Northern Spy is partially or wholly self-sterile. It is, however, true—and this truth has been widely and thoroughly demonstrated by the observations of practical fruit growers—that Northern Spy, in common with the principal leading commercial varieties of apples, will bear fuller crops of fruit when the mixed system of planting is practiced. The truth of this assertion was well borne out last spring when visiting the apple growing section of Grand Island County, Vermont. In one orchard I saw large blocks of Greenings, Spys and Russets growing alongside of each other. In every instance the contiguous rows of Greenings and Russets, or Greenings and Spys, as the case might be, were much more heavily laden than were the rows of these varieties in the centre of each block, where they were probably not affected by other pollen than their own. In the case of Northern Spy, a fair proportion of any other variety, would be two rows of Northern Spy and as in the case of strawberries one row of the pollenizer. Among varieties which blossomed last

year at or nearly with Northern Spy were: Alexander, Maidens Blush, Ribston Pippin, Roxbury Russet and Talman Sweet.

Ventilation and Heating of Greenhouse.

917. SIR.—1. Ventilation. How best arranged, the conservatory being a lean-to, eight feet wide and thirteen feet long, brick foundation and wood up to the benches, and on south-east side of my house.

2. Heating. I wish to use hot water, to be connected with my wood furnace which heats the house, having a firebox 20 inches square and four feet long. (a) Will four rows of two inch pipe around the conservatory, two sides and one end, give sufficient radiating surface, the glass being about 150 square feet? (b) How many lengths of two inch pipe should pass through the furnace firebox from end to end above the fire to sufficiently heat the water? (c) Should there be any difficulty in heating as contemplated, the furnace being within ten feet from where the pipes would enter the conservatory, and being one which holds the fire all night?

C. E. GERMAN, *Strathroy.*

Reply by Prof. L. R. Taft, Michigan Agricultural College.

1. Ventilation can be secured by means of two sash, each four or five feet long, running lengthwise of the roof at the ridge. They can be hinged at the upper edge and raised and lowered by hand, using skylight lifters.

2. (a) Four would be ample and three would probably answer if the coil is at least thirty feet long, provided the temperature does not fall below 25 degrees. (b) Four or five lengths three or four feet long should supply sufficient fire surface. (c) If properly arranged the pipes should work all right, as the entire circuit will not be more than fifty or sixty feet.

How to Kill Poplar Suckers.

918. SIR.—I notice in the January number of the CANADIAN HORTICULTURIST an enquiry as to how to destroy the vitality of "Poplar Roots." Knowing from experience

QUESTION DRAWER.

what a nuisance the popular suckers are, I hasten to give an answer. I had my ground covered with suckers after the trees had been cut down, I saw in some paper that if holes were bored in the stumps and the holes filled with coal oil it would kill the suckers. I tried it, boring holes with a three-quarter inch bit and filling with coal oil, every sucker, even two feet from stumps, were killed and, o-day there is not one alive.

L. FAIRBANKS, *Whitby.*

Early Potato.—(*Questions 879, 881.*)

Reply by Walter Hick.

Regarding the "Early Potatoes," in question 879, October No., also 881, November No. CANADIAN HORTICULTURIST; I intended to have answered it with my experience. I have been experimenting for some years with both early and late varieties. I have found Early Puritan from Peter Henderson and Polaris from W. H. Maule, about the earliest and best croppers, but I believe they are the same, so now I don't keep them separate. The Burpee's Early I find a poor cropper and small, and no earlier. The Tonnocks I found last year was the earliest of all and a good crop. I have not grown Carman, as noted in question 881, or the Jersey Queen or Early Main, as stated by Mr. R. F. Closson on page 441. My land is a good dark loam.

Pruning Apple Trees.

919. SIR,—I have a small farm of about eight acres more or less in Wolfville, N.S., partly in apple orchard (oldish) and a part in a young plum orchard. I want to know when to prune apple trees for the best results.

G. N. BALLENTYNE,
North Alleboro', Mass.

Light pruning may be done at any time, but wounds cut in June, heal more rapidly than at any other time of year. If pruning is done regularly every year, no large limbs need ever be cut, and the work may be done just when is most convenient.

Lecturers to Horticultural Societies.

920. SIR,—Can you send me a list of lecturers available on Horticulture? I am instructed to arrange for three or four lectures during the season. Our first should be within three weeks.

C. H. ROBERTS, *Secretary*
Paris Hort. Soc.

We would recommend the following gentlemen, viz.:—John Craig, Horticulturist, Ottawa; Prof. H. L. Hutt, O. A. C., Guelph; Prof. J. H. Panton, O. A. C., Guelph; D. W. Beadle, 303 Crawford St., Toronto; Alex. McNeill, Windsor; R. B. Whyte, Ottawa; Mr. Webster, Florist, Hamilton; T. H. Race, Mitchell; Alex. McD. Allan, Goderich. We shall be glad to hear of other names, which we may add to this list.

Nothing will better serve to build up and strengthen our affiliated Societies than a course of lectures each winter. The Fruit Growers' Association of Ontario has decided upon the following gentlemen as representatives to lecture before the Societies:—Mr. John Craig, of Ottawa (kindness of Mr. Wm. Saunders, Director of Dominion Experimental Farm), to the nine affiliated Societies east of Toronto; Mr. D. W. Beadle, a prominent Horticulturist, to the ten Societies south and west of Toronto, and Mr. Alex. McNeill, of Windsor, to the nine Societies north and west of Toronto.

Fertilizer for Plums.

921. SIR,—When and how should I fertilize my plum trees?

G. N. B., *North Alleboro', Mass.*

Try the following commercial fertilizers for each tree: $\frac{1}{2}$ to 1 lb. nitrate of soda; 3 to 6 lbs. dissolved rock or bone meal, and 9 to 18 lbs. of wood ashes, or $3\frac{1}{2}$ to 7 lbs. kainit. This should be applied in the spring.

OPEN LETTERS.

Fertilizer for the Apple.

922. SIR,—What fertilizers should I use for the apple?
G. N. B.

The same as above for cherry, only about twice the quantity in each case.

The Algoma District.

923. SIR,—Would you or some of the members give me some idea of Algoma District as a fruit growing place?

D. N. ANDERSON,
Wyoming, Ont.

Raspberry Root Gall.

924. SIR,—Does the raspberry root gall affect the crop very much, when bad? I have

been told it does not, and that all raspberry canes have it. A GRIMSBY SUBSCRIBER. 71

Hand Irrigation.

925. SIR,—Would an ordinary hand force pump be the best thing to irrigate a half-acre garden with? If so, how long would it take to pump enough water to soak that amount of land?
A GRIMSBY SUBSCRIBER.

So far as our experience goes, watering a half acre of ground by hand force is an utter failure. The amount of water required to cover half an acre one inch deep is 450 barrels! A windmill pump might be made to serve a good purpose.

* Open Letters. *

Planting Grapes.

SIR,—I would like to give you my experience with planting out grapes in the fall of the year. I had my land in good condition, and in the fall of 1895 I set out 1000 Concord, 900 Worden, 300 Niagara, all 2-year old vines, and; I don't think I lost three out of the whole lot every vine did well and is likely to have a nice crop this coming year. I just mention this, as many of my neighbors thought I would lose my vines and my time as well.

My fruit farm is nicely situated on the shores of Lake Ontario, about 2½ miles east of Port Dalhousie, which is very much adapted to the growing of vines and tender fruit.

My Abundance plum is looking fine and I expect a nice crop this year; the tree has only been out since the spring of 1896.

WILLIAM CAMPBELL,
St. Catharines, Ont.

Outfits for Spraying Gooseberries

SIR,—I congratulate you and the Association upon the improvement in the organ of the Association!

I desire to call attention to a few facts in connection with sulphate of potassium as a fungicide, through its medium.

I am informed by a wholesale dealer in Toronto, Mr. Alfred Boyd, that it is impossible to get it in commercial quantities in Canada, at any price. He is therefore getting me \$5 worth from Germany, with other goods he is importing.

Now if sulphate of potassium (liver of sulphur) is as efficacious as the Bordeaux for gooseberry mildew, it is preferable in that it is less trouble to make and apply.

But of course, if it has been proved deficient to the least degree, that would settle the matter.

The advantages of the sulphate are:—

- (1) No lime needed.
- (2) Therefore no slaking, decanting and straining.
- (3) No burnt hands and clothes.
- (4) No clogging of the nozzle.
- (5) No stained fruit.
- (6) No grinding of the valves of the pump.
- (7) Small quantities are easily made in proportion.

The following are the implements I have provided, as a perfect outfit, for the manufacture of Bordeaux:—

- (1) A large porcelain-lined kettle.
- (2) A 48-gallon barrel.
- (3) A 48-gallon barrel sawed across, this makes two large tubs.
- (4) A large piece of burlap, with a hoop to fasten the burlap over the mouth of the barrel.

The kettle aids in dissolving the bluestone, by keeping the water hot.

The tubs are used for slaking the lime, and decanting serves to eliminate the sand, which all lime contains and which is hard on the pump, and makes the cleaning easier.

Some brother may have a better outfit, if so, it would be a charity to describe it, for the benefit of the less fortunate.

OPEN LETTERS.

Green's Fruit Grower quotes the sulphate at 20 cents a pound, after special enquiry into the matter. At this price a 48-gallon barrel will cost 30 cents, or about the same as the Bordeaux, bluestone being $7\frac{1}{2}$ cents a pound.

T. Eaton, of Toronto, catalogues it at 50 cents a pound, at which price its general use is prohibited.

In the interest of this growing industry, some steps should be taken to have the duty removed. I don't advise giving any coddling to gooseberry growers, but we certainly want a fair field and no favor, and if we can grow the large, rich, luscious English gooseberries, they will soon win their way into popular favor.

STANLEY SPILLET,

Experimenter, South Simcoe Sub-Station.

Gooseberry Cuttings.

SIR.—I was rather amused reading the article on "Raising Gooseberries from Cuttings," in January No. CANADIAN HORTICULTURIST, page 38, and must say that Mr. Spillet is altogether in the wrong, as I have raised any amount from cuttings of various sorts; but as for the industry I can't say much; I have found them slow growers and shy bearers, and have not tried to raise many, still I succeeded with a few. My plan is to make a small trench 5 or 6 inches deep and put in about two inches of sand along the bottom, cover with soil, stick the cuttings in and there is very little more trouble, but keep them clean. The trench should be pretty well shaded.

WALTER HICK, *Goderich.*

Profit Somewhere.

SIR.—I intend in a few days to send you a sample of my Improved Baldwin, as you were pleased to call it, it is not grown in any particularly favorable situation as I have it scattered over different parts of the orchard.

I put cards in several barrels of apples packed, asking the consumer to let me know how they turned out, the quality, price paid, etc. I received three answers, two from near London, very good, Baldwins fine quality; price paid 11/ and 11/6. Another from Nuremberg, Bavaria, well pleased with them, all giving good satisfaction to their customers. So there is a profit somewhere, when all we get for picking, fetching barrels and taking them to a station; boarding the packers—and they take none but the best—was 50 cts. I consider the packers and buyers are knaves.

WALTER HICK, *Goderich.*

Growing Gooseberry Cuttings.

SIR.—The HORTICULTURIST for January, 1897, page 39, contains a letter from Mr. F.

W. Porter, of Mount Forest, on "Gooseberry and Currant Growing," in which he says, "In Mr. Spillet's article (in Toronto News) he makes the assertion that gooseberry bushes cannot be grown from cuttings," and then states that his own experience proves the reverse. Mr. Spillet's reply appears on the same page wherein he says "I emphatically repeat my statement in Daily News, that practically the gooseberry can't be propagated from cuttings."

As Mr. Spillet is conducting one of the Experiment Stations and is therefore supposed to have had considerable practical experience in that line: this statement of his "That gooseberry bushes cannot be grown from cuttings," is, in my opinion misleading, and may do much injury by discouraging would-be growers of that excellent fruit.

If Mr. Spillet had given the subject the consideration it deserved he would not, I think, have made such an emphatic statement; because many amateur gooseberry growers throughout the country are successfully and profitably producing bushes from cuttings every year. I have been growing gooseberries for the past 20 or 25 years and during that time have grown a considerable number of bushes from cuttings. One year I planted 500 cuttings of the Whitesmith variety, from which I obtained more than 90 per cent of first-class bushes, and I can assure my amateur friends that notwithstanding Mr. Spillet's statement, any one can have like success by working intelligently.

THOS. BEALL, *Lindsay.*

Best Early Forcing Tomato.

SIR.—Would like to know what are the best early tomatoes for greenhouse for forcing early.

A. E. FRENCH, *Brantford.*

Ice House Ventilation.

SIR.—I built an ice-house for my own use, 13 x 14 and 7 ft. posts, and went to the expense of running a ventilator along the top, 3 ft. wide and 2 ft. high, with roof the full length of ice-house. I understood that ventilation was one of the most important factors in the keeping of ice. Last season my supply wasted very rapidly, although well put in, and covered thoroughly with sawdust. I am now told that I must reduce my ventilation by at least $\frac{3}{4}$, as I am letting in too much heat in summer. I should very much like to hear from those who know.

A SUBSCRIBER,

Belleville, Ont.

Grow Seedlings.

SIR.—One thing that I think we should remember, and that is a practice which, I

OPEN LETTERS.

notice, is opportunely emphasized in the letter by your venerable and revered father, Mr. C. E. Woolverton, which appeared in the last issue of your Journal. I refer to the desirability (especially in all sections new to fruit culture) of planting seeds of the hardiest and best varieties of fruits, in the hope of producing something desirable from the standpoint of quality or of adaptability, to the climate and soil of the particular locality in which they are grown. Thus, for Manitoba, where fruits are so difficult to procure and produce, this kind of culture is a work that should engage the close and earnest attention of the pioneer fruit growers of the country. Seeds of the hardiest apples and crabs and small fruits should be sown profusely, their resultant product examined and the best selected therefrom. When we consider the large number of valuable varieties which have come to us and to fruit growers in all lands, by chance, we are impressed with the necessity of giving nature every possible opportunity of improving herself.

JOHN CRAIG,
Horticulturist.

How to Export Apples to Australia.

SIR,—Yours of 30th of October came to hand last month, but as my son advised you, I was just leaving for the north and could not then reply. He sent you a statement of a small lot of apples sent to Winter and a reference to a second lot. The first transaction was profitable, the second a loss. A third arrived on the 5th of January. It will be financially worse than the second. What made the difference? The first lot were well picked, packed, handled here according to the suggestions in my report of last year. The others violated these conditions. To get a profit out of this market the following conditions must be met:

- (1) The fruit must be carefully picked.
- (2) Carefully selected as to kinds and sizes. It cost too much to send defective fruit here and an Act may be in effect next year that requires all codlin moth affected fruit to be destroyed. Medium sized apples are worth two shillings per bushel case more than large ones.
- (3) Carefully packed according to directions previously sent.
- (4) Carefully shipped.

It is as important that the railway shipment should be as sharply looked after as the steamship carriage. If they arrive in Vancouver in a poor condition stop them there, it is useless to send them on. Hence it would be well to have the cases looked at there. Generally the outside will indicate the condition of the contents. They should be shipped in sufficient quantity to take up a cold storage chamber and cool air at 40 to 50 degrees pumped in. The Frisco steamers carry fruit on deck but the Vancouver steam-

ers will not do this. Hence the necessity for the cool storage.

(5) They should be properly handled here. Let me illustrate what I mean. No. 1 lot of apples came to Mr. Winter, who sold your shipment last year. He had his fruit on the market twenty-four hours after the arrival of the ship. The second lot came to a respectable commission fruit dealer who handled them in the ordinary way and as a consequence they were not on the market until seventy-two hours after arrival. Every hour is essential in this climate, and a delay of twenty-four hours makes a great difference in the appearance of the fruit.

(6) Shipments should be confined to fruit to land here early in November and December. Later than this the chances of a good market are very poor. Colonial fruit comes in and prices are low.

(7) Notice should be given of intention to ship, say in July or August in order to stop California fruit being sent here. Otherwise the market will be overstocked and prices be unprofitable.

(8) Too many must not rush into the trade nor too much fruit be sent. High prices are required to meet the cost, and more than a couple of thousand cases at once would ruin the market. Even that number would have to be put into cool storage and handled judiciously.

What is to be aimed at is to get two or three shipments of fruit landed here in good condition and marketed profitably. The Australian buyers would then go into the Canadian market from different cities here and the trade would take care of itself.

J. SHARKE.

Sidney, N. S. W., Jan. 7th, 1897.

Gooseberry Cuttings.

SIR,—Will you please allow me to give the HORTICULTURIST my experience. I have read the dispute in the HORTICULTURIST, also in Green's Fruit Grower. Even nursery-men say gooseberries cannot be propagated from cuttings. Many years ago I trimmed Houghton gooseberry bushes, not because the bushes wanted trimming, but I wanted to enlarge my gooseberry garden. I put the spade in the ground, then drew out the spade and put in the slip. I put in I might say a hundred, and they all grew. Some of them were long. I doubled them, put the double in the ground, top and but end out, both ends grew. I tried the same thing with Downing, but not a bit would grow. Now this land is not moist land, but dry gravel. I have not tried other gooseberries, I have very few of them.

Is the Grimes' Golden apple and the Newtown Pippin apple the self same apple?

GEORGE MARSHALL,
Stirling, On

[No, they are entirely distinct.]—Ed.