

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.

- | | | | |
|-------------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/> | Coloured covers /
Couverture de couleur | <input type="checkbox"/> | Coloured pages / Pages de couleur |
| <input type="checkbox"/> | Covers damaged /
Couverture endommagée | <input type="checkbox"/> | Pages damaged / Pages endommagées |
| <input type="checkbox"/> | Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée | <input type="checkbox"/> | Pages restored and/or laminated /
Pages restaurées et/ou pelliculées |
| <input type="checkbox"/> | Cover title missing /
Le titre de couverture manque | <input checked="" type="checkbox"/> | Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées |
| <input type="checkbox"/> | Coloured maps /
Cartes géographiques en couleur | <input type="checkbox"/> | Pages detached / Pages détachées |
| <input type="checkbox"/> | Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire) | <input checked="" type="checkbox"/> | Showthrough / Transparence |
| <input type="checkbox"/> | Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur | <input checked="" type="checkbox"/> | Quality of print varies /
Qualité inégale de l'impression |
| <input type="checkbox"/> | Bound with other material /
Relié avec d'autres documents | <input type="checkbox"/> | Includes supplementary materials /
Comprend du matériel supplémentaire |
| <input type="checkbox"/> | Only edition available /
Seule édition disponible | <input type="checkbox"/> | 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. |
| <input type="checkbox"/> | 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. | | |
| <input checked="" type="checkbox"/> | Additional comments /
Commentaires supplémentaires: | | Continuous pagination. |

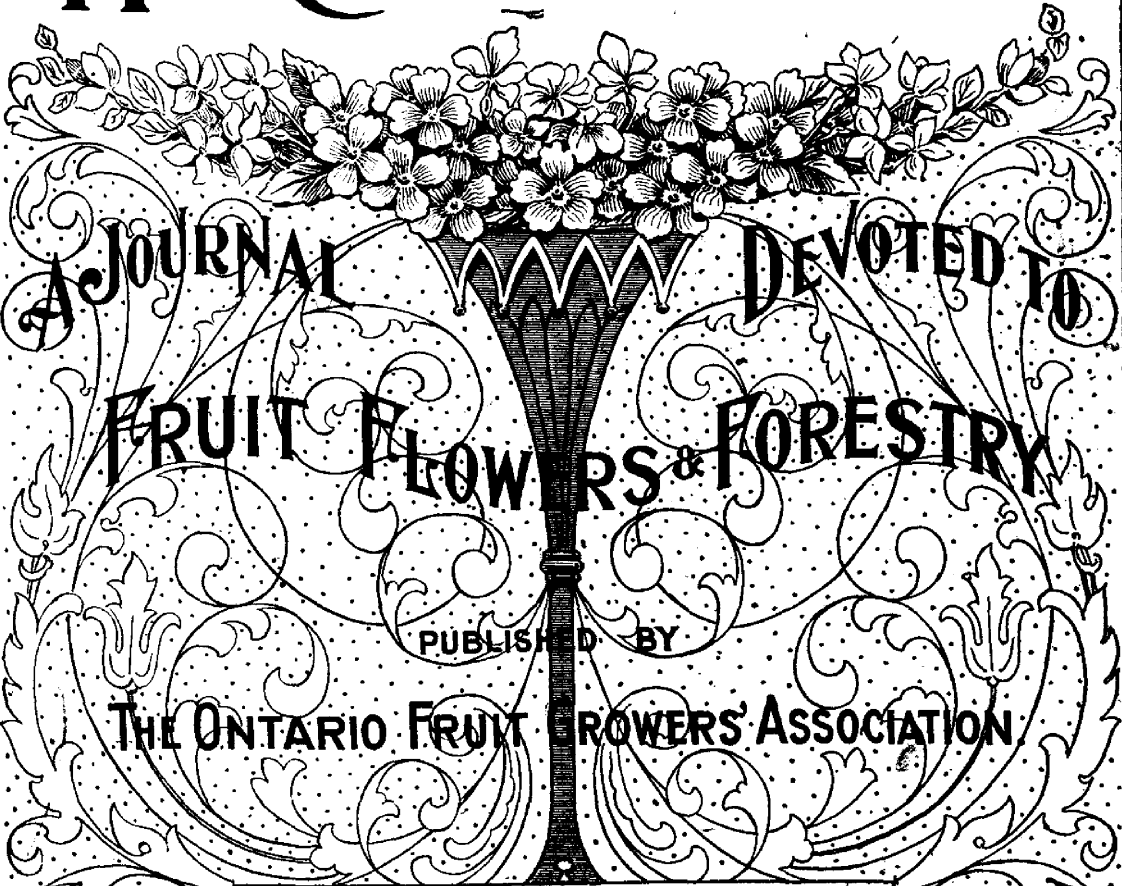
AUGUST, 1897.

0-243-3-4 11

17

The

CANADIAN HORTICULTURIST.



A JOURNAL DEVOTED TO
FRUIT, FLOWERS & FORESTRY

PUBLISHED BY

THE ONTARIO FRUIT GROWERS' ASSOCIATION

EDITED BY
L. WOOLVERTON M.A. SECRETARY
* GRIMSBY, ONT. *

\$1.00 PER ANNUM (INCLUDING MEMBERSHIP, ANNUAL REPORT AND SHARE IN PLANT DISTRIBUTION) SINGLE COPY, 10C

SOLE AGENT FOR GREAT BRITAIN: Sampson Morgan, 4 Adelaide St., Charing Cross, London. Terms of Subscription for Great Britain, including postage, five shillings; Advertising rates on application.

A Lesson for the Weak.

Do you see that locomotive engine standing on the side-track? Something has broken down about it. There is not a hiss of steam from its valves; it is still and cold as a dead whale on a beach; it can't draw a train; it can't even move itself. Now, tell me. Do you believe that any amount of tinkering and hammering at it would make it go? Not a bit. Nothing on earth will make it go except steam in the boiler, and even that won't unless the engine is in order. Everybody knows that, you say. Do they? Then why don't they act on the principle in every case where it applies?

Here is such a case. Writing concerning his wife, a gentleman says: "In the autumn of 1880, my wife fell into a low desponding state through family bereavement. Her appetite was poor, and no food, however light, agreed with her. After eating she had pain and tightness at the chest, and a sense of fullness as if swollen around the waist. She was much troubled with flatulence, and had pain at the heart and palpitation. At times she was so prostrated that she was confined to her room for days together, and had barely strength to move.

"At first she consulted a doctor at Ferry Hill, but getting worse, she went to see a physician at Newcastle. The latter gave her some relief, but still *she did not get her strength up*; and after being under his treatment for six months she discontinued going to him. Better and worse, she continued to suffer for over a year, when she heard of Mother Seigel's Curative Syrup. She began taking it, and soon her appetite revived and *her food gave her strength*. In a short time she was quite a new woman. Since that time (now nearly twelve years ago), I have always kept this medicine in the house, and if any of my family ail anything a few doses puts us right.—Yours truly, (Signed) George Walker, Grocer, &c., Ferry Hill, near Durham, Oct. 25, 1893.

We call attention especially to those words in Mr. Walker's letter which are printed in italics. You can pick them out at a glance. They show how fully he understands where human strength comes from—that it comes from digested food and not from any medicines the doctor or any one else can give us. Let us have no mistake or confusion of mind on this important point.

For example, Mrs. Walker was ill with indigestion and dyspepsia. Her symptoms, and how she suffered, her husband tells us. The disease destroyed her power to obtain any strength from food, and Nature suspended her appetite in order that she might not make bad, worse by eating what could only ferment in the stomach and fill her blood with the resulting poisons. The only outcome of such a state of things *must* be pain and weakness—weakness which, continued long enough, *must* end in absolute prostration and certain death.

Well, then, she failed to get up her strength under the treatment of either doctor. Why? Simply because the medicines they gave her—whatever they may have been—did not cure the torpid and inflamed stomach. If they *had* cured it then she would have got up her strength exactly as she afterwards did when she took Seigel's Syrup. But the trouble is this: Medicines that will do this are rare. If the doctors possessed them they would use them, and cure people with them, of course. Mother Seigel's Syrup is one of these rare and effective medicines. If there is another as good the public has not yet been made acquainted with the fact. But even the Syrup does not impart strength; it is not a so-called "tonic;" there is no such thing. ~~It~~ (the Syrup) *cures the disease*, drives out the poison, repairs the machine.

Then comes the appetite (all of itself) and digestion *and* strength. You see the order—the sequence. Yes. Well, please bear it in mind. The mechanics set the engine in order; then the stoker gets up the steam.

And of the human body—the noblest of all machines—Mother Seigel's Syrup is the skilled mechanic.



VIEW NEAR FONTHILL, ONT.

THE
CANADIAN HORTICULTURIST.

VOL. XX.

1897.

No. 8.



STONY CREEK AND FONTHILL FRUIT GARDENS.

NOT a very poetical, or even appropriate name is Stony Creek for a naturally beautiful section where fruit gardens abound and the scenery is most picturesque. We would humbly suggest a change to some more euphonious and appropriate name, if the owners of land in that section ever expect a boom in landed property. Having an hour to spare, while waiting for the Buffalo train, we climbed the mountain and secured some fine views of the pretty country below. In one direction lay Stony Creek, with its power house for the H. G. & B. electric road, and its beautiful orchards, reaching away to the shore of Lake Ontario; and in another a distant view of Burlington Bay, Burlington Beach and Burlington Heights, and near at hand the famous battle field of 1812, where a few Canadian Militiamen routed a camp of American soldiers who fled to Niagara, leaving behind camp-kettles ammunition, and many other articles now treasured by the antiquary as relics of that war.

The bridge at the right in Fig. 1162 marks a ravine which is the entrance to Stony Creek Park, eight acres in extent, now being improved by the Davis Bros. In it is a beautiful fall, which, though small in width, yet in height is said to rival Niagara. Fruit land here is very valuable, especially since the H. G. & B. trolley has been built. For instance a nice orchard of 23 acres to the right of the bridge, planted to peach and fruit trees with house and barn, is held at \$5,500, and generally speaking fruit land is worth from \$150 to \$300 per acre.

From Stony Creek and Winona, the T. H. & B. creeps up the mountain, showing below the most charming views of orchards and gardens of peaches, plums, pears, apples, grapes and small fruits, such as cannot fail to attract the attention of the great travelling public to the advantage of this section for that department of agriculture.

The country from Winona to Fenwick is uninteresting, but the drive of four miles from Fenwick to Fonthill reveals acres of as good garden land as can be

STONY CREEK AND FONTHILL FRUIT GARDENS.

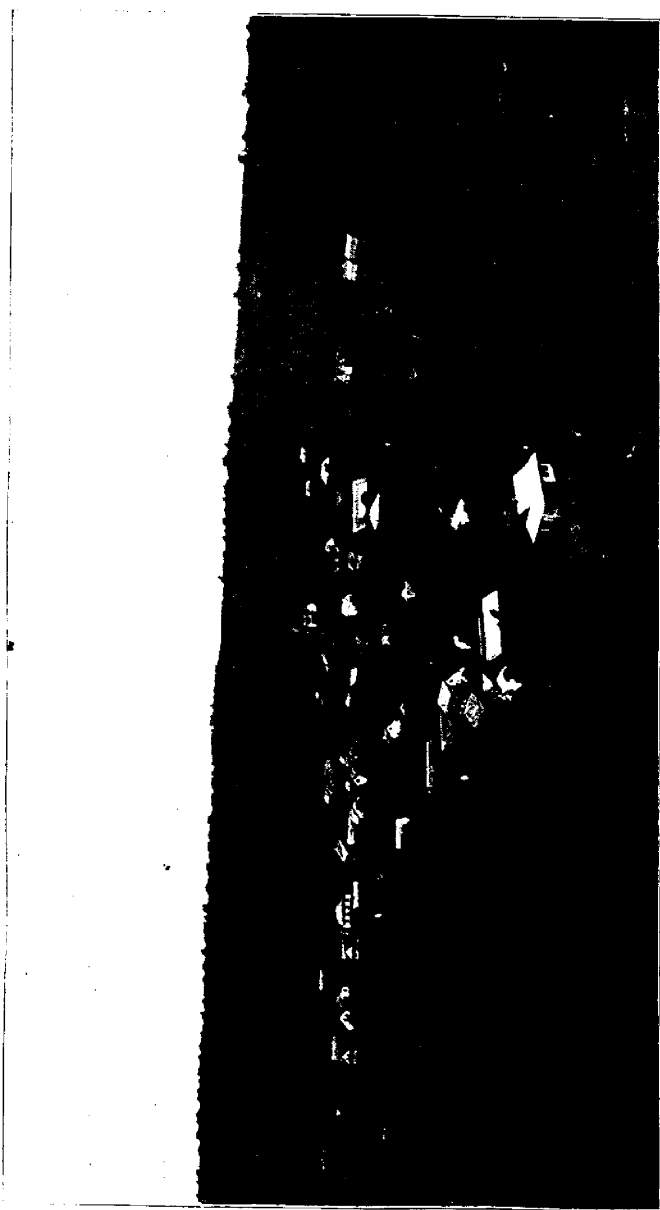


FIG. 1162.—FONTHILL FRUIT GARDEN.

found anywhere, which only needs better shipping privileges to be ranked as first-class fruit land. Even as it is, with the G. T. R. six miles distant, and the T. H. & B. four, large acreages of peach orchards and small fruits have been planted, and give excellent returns, for there is no finer peach soil in Canada.

The country about Fonthill is rolling and near by is the highest point of the Niagara Peninsula, an elevation whence at times lakes Erie and Ontario are both discernible.

Our frontispiece shows a view from near Fonthill, looking north east, with Mr. E. Morris, the nurseryman, in the

STONY CREEK AND FONTHILL FRUIT GARDENS.

foreground, and just below some of his nursery stock, while in the mid-distance Thorold and to the left St. Catharines is barely distinguishable.

A visit to Fonthill would be incomplete, if it did not include the Fonthill Nurseries, the most extensive in the Dominion, covering in all, about 700 acres

tain ash, in the middle background a fine hedge of *Spiraea Van Houtti*, and on the right one of Norway Spruce, beautifully trained, and in the rear a row of *Pyramidal Arbor Vitae*, which is adapted to become a beautiful ornamental hedge. On the left is seen a variegated Dogwood, Paul's Double-flowering Thorn, and a Scotch

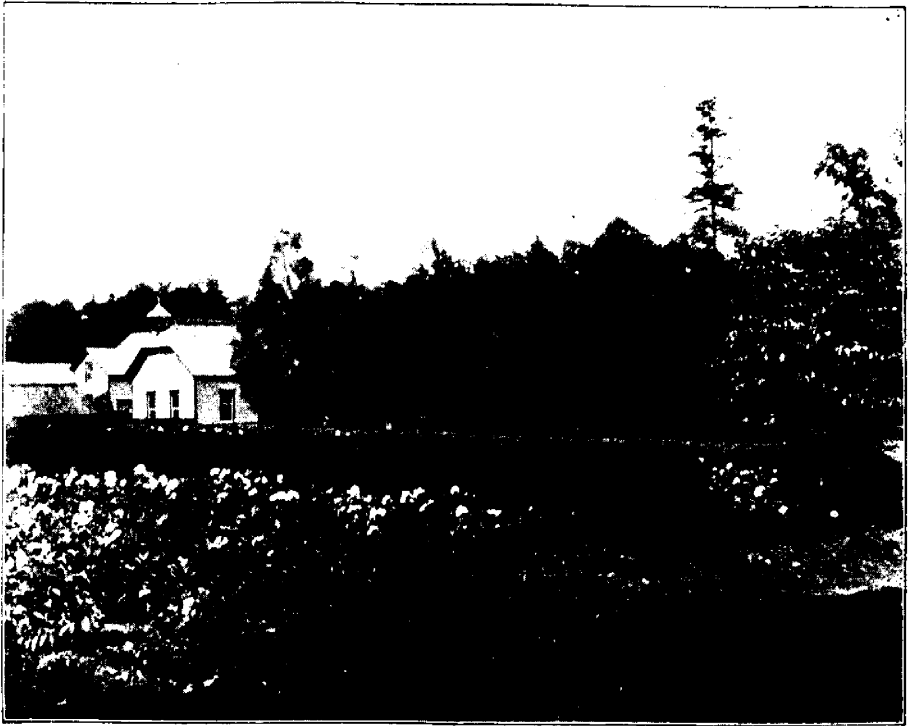


FIG. 1163.—PEONIES, NORWAY SPRUCE HEDGES AND OFFICES, FROM PHOTO. BY MISS MABEL E. WOOLVERTON.

of ground. Desiring to see the rose plantation, then in their full glory, we visited these nurseries, and were very courteously treated by the proprietors, Mr. W. E. Wellington & Mr. E. Morris, who furnished carriages for carrying the writer and his assistant, with accompanying cameras, through their grounds.

The entrance (Fig. 1164) is very pretty, having on the right a fine Weeping Moun-

pine. Driving in past the greenhouses and offices, we passed some large gardens of beautiful peonies of all colors. A snap from this point looking back toward the entrance with a Norway Spruce hedge near at hand, was too good to miss (Fig. 1163). In addition to the trees before mentioned it shows a fine Cut leaved Weeping birch near the office.

From here we were driven through

STONY CREEK AND FONTHILL FRUIT GARDENS.



FIG. 1164.—VIEW OF ENTRANCE TO GROUNDS.



FIG. 1165.—VIEW OF BLOCK OF PEACH TREES WITH GANG OF HOERS AT WORK.

STONY CREEK AND FONTHILL FRUIT GARDENS.



FIG. 1166.—ANNIE DE DIESBACH.

great farms of nursery stock, and were shown a single block containing 300,000 beautiful apple trees of salable size, another of 50,000 plum trees, another of 100,000 fine peach trees and another of 60,000 cherry trees, etc., all in the most excellent state of cultivation. One view of a block of 40,000 peach trees with gang of hoers at work is show in Fig. 1165.

Must our Canadian fruit growers plant and grow all these trees and place all the fruit they bear in the market to compete with that now being grown? we asked, naturally feeling anxious lest the markets will soon be more than glutted with fruit. "Yes, said the owner, they must plant them." In one respect we were compelled to acknowledge that the tree agent was a public benefactor. By his persistent efforts, and gifted tongue,

many meritorious varieties of trees are at once introduced into general cultivation, that otherwise would not have been known for decades of years.

The rose block was a charming sight; 50,000 plants in one block, of all the most desirable hardy varieties! Prominent among the white varieties we noted Madame Plantier, Coquette des Blanches, Coquette des Alps, and Margaret Dickson, the latter especially beautiful, with flesh-colored tint in centre.

Of red varieties, we noticed Francoise Levet, cherry rose of medium size, of Paul Verdier style, one of the hardiest; La Reine, very hardy, somewhat fragrant, glossy-rose; Paul Neyron, the largest of all roses, many of the blooms measuring seven inches in diameter; and Annie de Diesbach (Fig 1166) one of very best pink. Three varieties of red roses much resemble each other, viz.: General Washington, Charles Lefebre and Sir Garnet Wolseley.

Of dark red varieties of course Baron de Bonstetten takes the lead, but Jean Liabaud, a seedling of it, is a lovely rose and competes with it for the first place.



FIG. 1177.—AUGUSTA MIE.

BEAUTIFYING THE STREETS.

Augusta Mie is another fine glossy pink rose, raised from *la Reine*; a little tender for an H. P. At Fonthill it succeeds admirably.

One of the most interesting roses in the collection is the *Crimson Rambler* (Fig. 1178) which is an astonishing bloomer; though not large, nor very double, the clusters of bright crimson flowers are very large and the growth very vigorous, making it quite a good climber. It is said that as many as three hundred blooms have been counted in one cluster!

We have mentioned just a few of the many charming varieties that came under our notice, of many of which we have taken excellent photographs, but lest we weary our readers with this article, we reserve detailed description until some future issue of this journal. The day's excursion was a delightful one, and we reached Grimsby via St. Catharines and G. T. R., after an absence of just twelve hours.



FIG. 1178. —CRIMSON RAMBLER.

BEAUTIFYING THE STREETS.

IN one of the suburbs of Dayton, Ohio, an association has been formed for the purpose of beautifying the streets, the unimproved property and the public grounds by proper planting, by promoting a general interest in gardening, and by systematic efforts to abate nuisances and to control the location of houses so far as possible. Lectures are given, with views, to show how house surroundings can be made attractive, and the newspaper reports say that this part of Dayton has shown marked improvement in its appearance. Prizes are offered by the association for the best example of planting in individual grounds, together with the condition of the roadways, gutters,

curbs, sidewalks and general appearance of the houses. Prizes are also offered to boys for the best vegetable gardens, as well as prizes open to boys and girls for the best kept back yards, whether planted with flowers, shrubbery, climbers or grass. Photographs are to be taken of the examined gardens, with particular sections and decorations of the streets entered in competition, and a neat pamphlet has been published containing views of the prize winning grounds last year, and also embodying good advice about trees, shrubs and climbers, with the methods of planting and caring for them.—Garden and Forest.

THE ONTARIO APPLE, AND ITS ORIGINATOR.

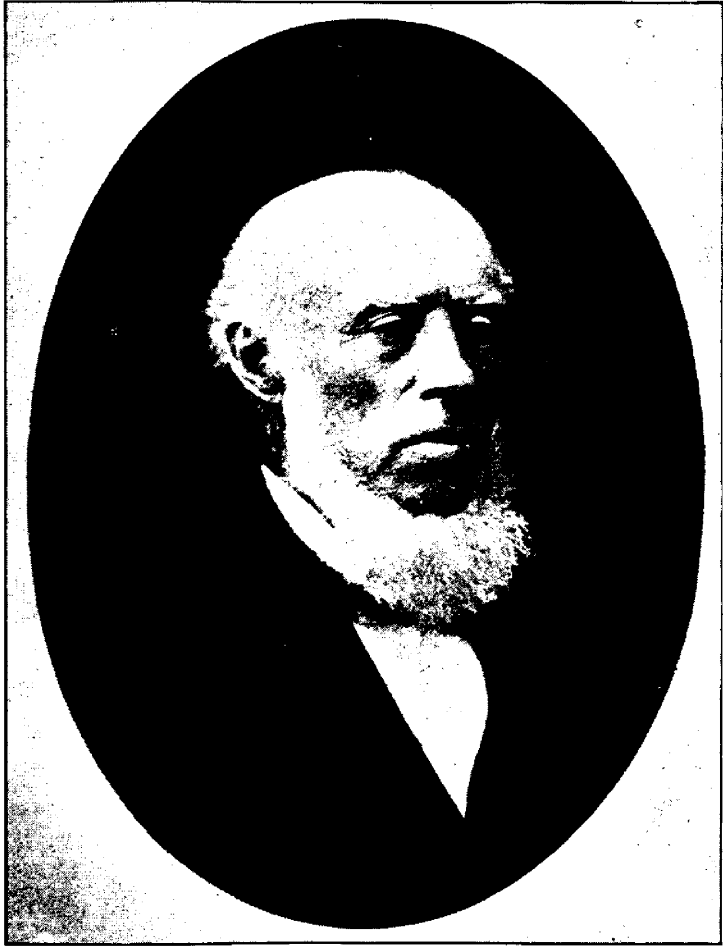


FIG. 1179—MR. CHARLES ARNOLD, PARIS, ONT.

WE have already referred so often to the Ontario apple, that it may seem superfluous for us to again bring it before our readers. We have only one excuse, and that is, the desire of placing side by side in this Journal, both the apple and its originator.

More than a decade of years has now elapsed since Mr. Charles Arnold, of Paris, was among us, the honored director

for division No. 9. For over fifty years he had conducted the Paris Nurseries, but his attention was by no means confined to narrow commercial lines, indeed a very large part of his time was given to originating new varieties, a work often unappreciated by the world, though often of the greatest service to it. According to Mr. Beadle the first efforts of Mr. Arnold in the line of hybridizing were made with the grape; crosses were

THE ONTARIO APPLE AND ITS ORIGINATOR.



FIG. 1180.—THE ONTARIO APPLE.

made between the *Vinifera* of Europe and the *Æstivalis* of this Continent, producing among others the *Othello*, *Cornucopia*, *Autuchon*, *Brant* and *Canada*, varieties much esteemed in France, but not so well adapted to this climate. He also experimented with raspberries, peas and other plants, but his crosses of the apple have been of more value to us than any other of the fruits; one of which, the *Ontario*, is already counted as one of the first-class Canadian commercial varieties for export purposes. Its merits are its early and abundant bearing, the even size of the fruit, and its excellent quality, all of which might be expected from its parentage, viz.: *Wagener*, crossed with *Spy*. At our Bay of Quinte Station it has been tested for many years, and found to give abundant crops of fine fruit, but in the vicinity

of Peterboro, and sections north of that point, it can scarcely be said to be hardy.

The tree is moderately vigorous, and an early bearer; and the fruit is large, often much larger than our engraving which is from a photograph of an average sized specimen.

For a more detailed description of this apple, we refer our readers to the report of the Experiment Stations of Ontario, just published by the Department of Agriculture at Toronto.

This report is unique, in as much as it is undertaking a work never before attempted by any experiment station, viz.: An illustrated work describing in a permanent form the fruits of the country. When completed this work will be of the greatest value to Canadian fruit growers

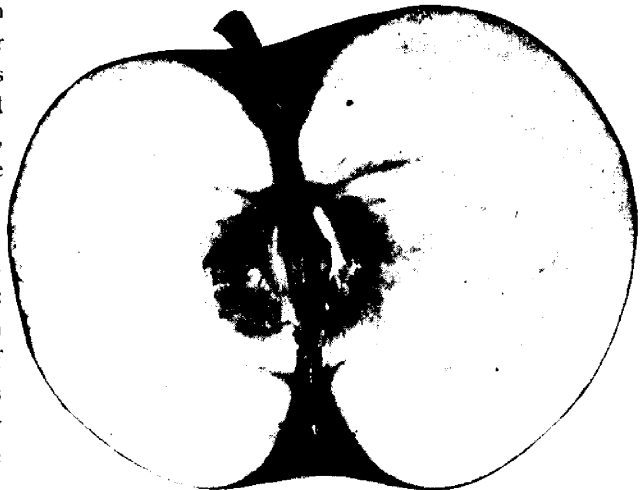


FIG. 1181.—SECTION OF ONTARIO APPLE.

CONVENIENT ORCHARD LADDERS.

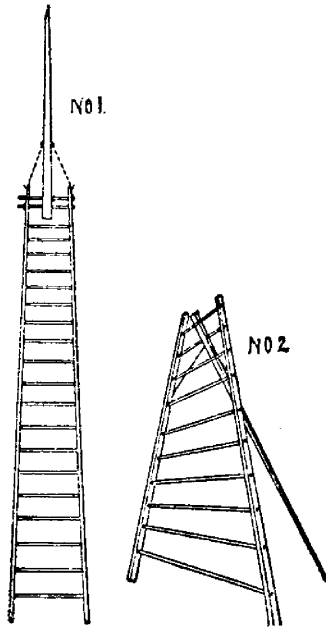


FIG. 1182.

A SUPPLY of convenient ladders is absolutely essential to the orchardist; and these should be provided in good time before the hurry of fruit season. For apple and cherry picking, the ordinary ladder of cedar poles with oak or hickory rounds is best. At Maplehurst we use various lengths, from 18 to 30 feet, but the most generally useful are those about twenty feet in length. The longer ones are needed for old apple trees, but need two persons to raise them, and must be handled with great care, or the ends will be soon broken off. Any carpenter will make these ladders for about 10 cents a foot. For peaches, plums, and dwarf pears the ordinary ladder is not very suitable unless provided with a tongue as shown in Fig. 1182 (1) as described by Farm and Home.

The dotted lines represent guards or fenders. Their use is to prevent the

tree limbs from catching on the end of the ladder. They are made of the stiffest wire. The upper ends are stapled to the tongue and the lower ends terminate in hooks which fasten into staples driven into the side pieces on the outside. The uppermost two rounds are close together and are made to slip out. Two corresponding holes in the lower end of the tongue receive these rounds when put in place. Pins of wire with bent heads are put through the moveable rounds and one of the side pieces, also through the second round and tongue, to hold all in place. The tongue can be taken out when the ladder is required for common use.

No. 2 is made on the same principle, but is shorter. In this the lowest round



FIG. 1183.

CONVENIENT ORCHARD LADDERS.

is five feet long, and the tongue is reversed. It rests on the under side of the topmost round, the second round passing through the second hole. The tongue is then drawn back until it cramps between the rounds, and it is fastened there by hooking the wires to staples driven into the side pieces at the proper distance down. The wires then acts as braces. When standing, the ladder forms a tripod. A piece of wood usually has to be fastened to the side of the tongue where it touches the top round, to give sufficient spread. If these ladders do not stand too slanting, a twig the size of one's finger projecting from a limb is sufficient to hold them in place. The short ladder will not stand well if over eight feet long. It is used to pick fruit from the lower branches, and the tongue can be extended or folded, as most convenient. It is a good step-ladder for any purpose.

Fig. 1183 shows a ladder, somewhat similar to the last in use in gathering dwarf pears; such a ladder is most convenient in such a case for often the young growth toward the top would not support an ordinary ladder.

For very low trees a stout step-ladder such as is shown in Fig. 1184 is useful, but a little heavy for carrying about. For small gardens where a first-class ladder is wanted, and expense is not the first consideration, we commend Harvey's Portable Step ladder, illustrated on page 97. If the land is at all level, and free from bushes, it can be wheeled about from tree to tree with perfect ease. We have not figured the ordinary step-ladder, because it is for sale everywhere. The great consideration with most of us is to have the step-ladders light enough for carrying about the orchard, and strong enough to endure a great deal of abuse

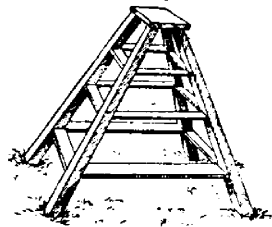


FIG. 1184.—STEP LADDER.

GOOD OUTDOOR WHITEWASH.

The following recipe for whitewashing was at one time sent out by the light-house board of the treasury department. It has been found, by experience, to do well on wood, brick and stone, and to give almost as good satisfaction as oil paint, being made cheaper.

Slake one half bushel unslaked lime with boiling water, keeping it covered during the process. Strain it, and add a peck of salt, dissolving in warm water;

three pounds ground rice put in boiling water, and boiled to a thin paste; one-half pound powdered Spanish whiting, and a pound of clear glue, dissolved in warm water; mix these well together, and let the mixture stand for several days. Keep the wash thus prepared in a kettle of portable furnace, and, when used, put it on as hot as possible, with painters' or whitewash brushes.—N. Y. Farmer.



FIG. 1185.—W. E. WELLINGTON.

W. E. WELLINGTON, ESQ.

WE are glad to be able to give place in this number to a picture of our President for the current year, viz.: Mr. W. E. Wellington, of Toronto. This gentleman has been long associated with us on our Board of Directors, and has already been energetic in forward-

ing the best interests of Canadian horticulture. We are much indebted to him for the excellent provision for fruit growers now afforded at the Industrial Fair. For an extended sketch of Mr. W. E. Wellington, we refer our readers to Volume XV of this journal, p. 11.

GOOSEBERRIES—ARE THEY PROFITABLE?

GOOSEBERRIES are not very profitable in Canada. Perhaps if we could grow the immense English berries, they would bring us some money, but they mildew so badly we cannot, except in several favored sections with northern exposure. Large berries bring a good price, but small ones are poor sale. On the 25th of June we shipped 20 eight-quart baskets of small gooseberries to Toronto, and they were sold at from 10c. to 12c. a basket; just about enough to pay for the picking! They yield well, the bushes giving about fifteen quarts each, but what advantage is that, when the selling price does not cover the expenses?

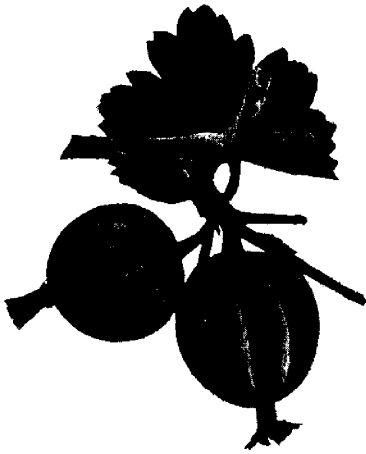


FIG. 1186.—THE DOWNING.

Some years ago we made a beginning in mildew-proof kinds with Houghton's Seedling, a variety originating in Massachusetts, but too small for profit. Then came Downing and Smith's Improved, both seedlings of Houghton, the latter raised in Vermont, the former in New York State. The Downing (Fig. 1186) is the best of these American varieties and very productive, but still not big enough to be grown very extensively in a commercial way for profit.

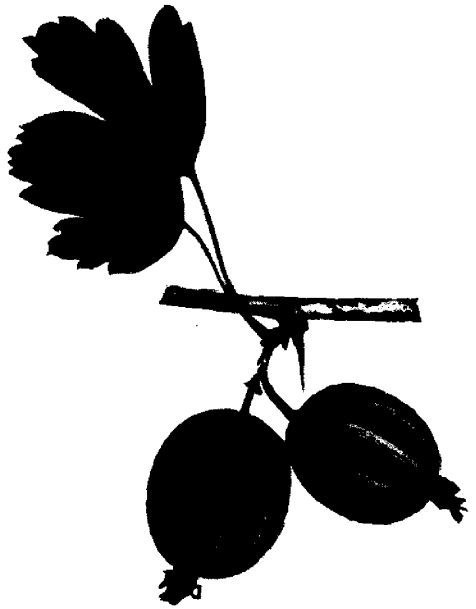


FIG.—1187. THE PEARL.

Another variety, the Pearl, is now being pushed upon the fruit growers' attention by both American and Canadian nurserymen, and sold at a comparatively high price. This berry, like the Downing, is mildew proof and exceedingly productive. But is it any larger than it is when heavily loaded, and is it big enough to bring a paying price in the markets? We wait the reply of our experimenters.

In this connection, the following extract from Bulletin 114 N. Y. Experiment Station will be of interest to our readers.

For marketing green the European varieties are to be preferred, as they reach salable size somewhat earlier than do the native varieties, and this usually means a somewhat better price. During the season of 1896 the prices per quart ranged from 10 cents to 3 cents, the better prices being given for the early marketed green fruit and for the extra large ripe fruit.

GOOSEBERRIES—ARE THEY PROFITABLE.

In quality the best American sorts are superior to the best foreign sorts, as they have a much thinner skin and more delicate flavor; but fruit preserving establishments seem to prefer the European varieties, probably because the jam made from them corresponds more closely to the favorably known product put up by English firms.

Though so much larger-fruited, the foreign varieties are not as productive as the natives, nor have they proven quite so hardy. Large growers report yields from the standard American varieties of from half a ton to as high as four tons per acre

Industry is one of the best of the European varieties, as it is a strong grower and one of the most productive. Its fruit is medium to large in size, pear shaped or roundish oblong, smooth or nearly so, dark red, mild sub-acid or sweet, of very good flavor, and an excellent fruit for marketing green. Like the other foreign varieties it often suffers quite seriously from mildew, unless preventive treatment is given. *Crown Bob* is another excellent variety for the early market, though it is not as strong a grower nor as productive as *Industry*. Its fruit resembles *Industry* in color, is smaller, nearly round, almost sweet and of good quality. *Lancashire Lad* is a vigorous variety and suffers but slightly from mildew. Its fruit is medium to large in size, nearly round, almost wine colored, slightly hairy, sub-acid or nearly sweet and of good quality. *Wellington Glory* has proven most productive of the European varieties fruited at the Station for four years, and has usually escaped much injury from mildew, though it occasionally suffers severely. The fruit is of an attractive pale yellow, medium to large, oblong, smooth with slight bloom, sweet and good. *Dominion* is a new variety of promise, as it is vig-

orous and seems productive. So far it has not mildewed. The fruit is large, varying from round to oblong, pale, greenish white, nearly transparent and thin-skinned for a berry of foreign type. *Triumph*, while not as productive at the Station as *Wellington Glory*, seems one of the most desirable of the green or yellow fruited varieties. The bush is a strong grower and quite free from mildew, though occasionally showing a considerable amount of the disease.

For home use as well as for market gooseberries should be given shallow, clean cultivation, and should not be allowed to struggle along as best they may in a fight for food with grass and weeds and shrubs. If planted in fairly fertile, well-drained soil of almost any sort, given a show against weeds and other enemies, and fertilized well after they begin to bear, they will return good crops of fine flavored fruit

PRUNING.—Two systems of pruning are used, one producing the tree form, which is common in England and is adapted to well cultivated gardens; the other, the bush form, Figs. 1188 and 1189, which is preferable for general culture, as its productive life may be indefinitely extended.

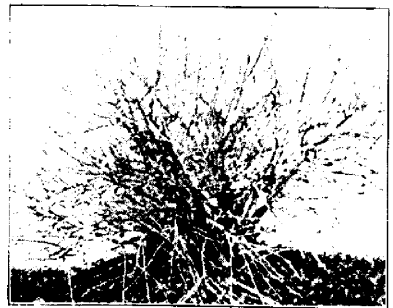


FIG. 1188.—INDUSTRY.
(Bush form, before pruning; 9 years planted.)

Grown in tree form the plants produce no suckers; if accidentally broken off, they are destroyed; and when the bushes

GOOSEBERRIES—ARE THEY PROFITABLE.



FIG. 1189.—The same after pruning.

become unprofitable, as they are liable to do after producing five or six good crops, no restoration is possible. To grow gooseberries in this form, it is merely necessary to rub off all buds or eyes from the below-ground part of the cutting. Only one main stem will be formed, and the top may be easily shaped and preserved by cutting back the new shoots each year to about three buds, and removing weak or superfluous branches.

With the bush form, new, vigorous canes are constantly springing from below ground, and stand ready to take the place of any worn-out stalk and to maintain the productiveness of the parent bush. Five or six canes, including the new ones, should be left in each bush, or even more if the variety be one with slender canes. Little pruning will be necessary for two or three years after planting, except to clip off the ends of the shoots to favor development of the fruit spurs along the cane. The upper buds frequently grow so strongly if this is not done, that the lower ones fail to start, and the fruit is nearly all borne toward the end of the canes, and its weight forces them to the ground. Besides this "heading in" weak or broken, or too vigorous branches, old canes and those too close to the ground, should be removed. The centre of the bushes need not be kept open to the

sunlight, as the fruit may become scalded if not shaded by foliage, but free circulation of air underneath the branches should be promoted.

DISEASES—The worst disease attacking the native gooseberry is *leaf spot*, a parasitic disease due to a fungus which causes spotting of the leaves and consequent weakness and defoliation. It can probably be successfully treated by spraying once with Bordeaux mixture, before the fruit begins to grow, and resuming the applications in midsummer, after the fruit has been picked and is not in danger of spotting by the spray.

Mildew affects most seriously the European gooseberries and their seedlings, and has almost prevented the cultivation of the species in America.

It can be largely prevented by planting on well-drained soil, in high locations, where good air drainage will promote rapid evaporation of dews and rains, and where circulation is not hindered by tight fences, windbreaks, groves or buildings; by *shallow* cultivation, to keep the soil light and dry and free from weeds; by pruning, to give the air currents free access; and by spraying with fungicides. The best fungicide for this purpose is probably potassium sulphide, as Bordeaux mixture is liable to spot the fruit and decrease its market value. Spray the bushes thoroughly as soon as the buds begin to open, and every ten days thereafter until the fruit is nearly ready to market, using a solution of 1 pound of the potassium sulphide in 32 gallons of water. If heavy rains immediately follow the spraying, repeat the application, and each time use great care that all parts of the foliage are reached by the spray. If leaf-eating insects are present, the poisons which are fatal to them may be added to the spray and a double protection secured.

GOOD POINTS ABOUT PEACHES.

CONCLUSIONS.—If the grower wishes a hardy, productive, mildew-resistant gooseberry, with thin-skinned fruit of good quality and delicate flavor, let him select one of the American varieties, such as Downing, Houghton or Pale Red. If he is prepared to fight the mildew, and wishes to grow for market a large early berry, or late fruit of striking size and uncommon color, the

European sorts like Industry, Crown Bob or Wellington Glory are to be preferred. Whatever varieties may be selected, plant the bushes on good soil, give them plenty of room and rich food, keep down the grass and weeds by shallow cultivation, prune out the useless wood, let in the light and air, destroy the worms and prevent the mildew.

GOOD POINTS ABOUT PEACHES.

THE essential elements of success with peaches are: 1, seed from natural pits, free from any taint of disease, with equal care in getting buds; 2, healthy trees, planted on high, dry land, where no peach trees have stood before, with moderate, clean culture up to July, yearly (not afterward) so as to secure only well ripened wood in autumn; 3, the yearly application of some perfect manure potash included. These things are all important.

There are a few other points which I desire to emphasize: First, the practice of moderation in the early years of a peach orchard, to be followed after maturity by very liberal management. Second, never let an orchard bear a breaking crop; a moderate crop of large peaches is more valuable than a very heavy crop of small peaches; besides it is far less exhausting. Again, the practice of cutting back the branches so as to reduce the number of blossoms helps the matter of thinning and promotes a growth of more new, vigorous wood to bear fruit the succeeding year.

Last spring I made an application of 600 lbs. per acre of fish and potash, to each ton consisting of 1400 lbs. of

ground fish and 600 lbs. of potash. My leading object was to plant between the peach rows strawberries for plants and fruiting, but the effect upon the eight-year-old peach orchard was excellent. The fruit upon these trees was perhaps as fine as I ever had, and the growth and promise next year are the best. This was only a part of the orchard, and I seriously regretted that it had not been over it all. From this experience and what I have observed elsewhere, I have no hesitation in recommending some quick-acting nitrogenous fertilizer in connection with the other elements in a mature or declining peach orchard. Another practice popular in Michigan and undoubtedly beneficial, is the early sowing of rye in August to serve as a winter mulch, and in spring to be turned under as a manure. With our occasional warm spells in winter, the use of some means to act as a mulch, and thus maintain a uniform condition of temperature in the soil, cannot be over-rated. I saw in Tennessee some peach orchards mulched with straw for the same purpose, certainly a reasonable practice.—P. M. Augur, in *Farm and Home*.

THE FAMEUSE APPLE.

THE Fruit Growers' Association of Quebec met at Howick, on the 27th of January. There were present a large number of prominent members, among them the Hon. S. Fisher, R. J. Shepherd, R. Brodie, J. M. Fisk, J. C. Chapais, and Messrs. Craig and Shutt, of Ottawa.

Mr. Shepherd read a paper on the apple crop of the Province of Quebec, in which he made the following refer-

during the greatest glut ever known in that market. London seems to be the best market for No. 1 Fameuse, if packed with care, either in barrels or cases. Of course I prefer the case package for my special trade, as the fruit arrives on the other side in much better condition. Just as the Newtown Pippin commands fancy prices, even in such years of plenty as last (prices reaching 25s to 28s. per barrel), for no

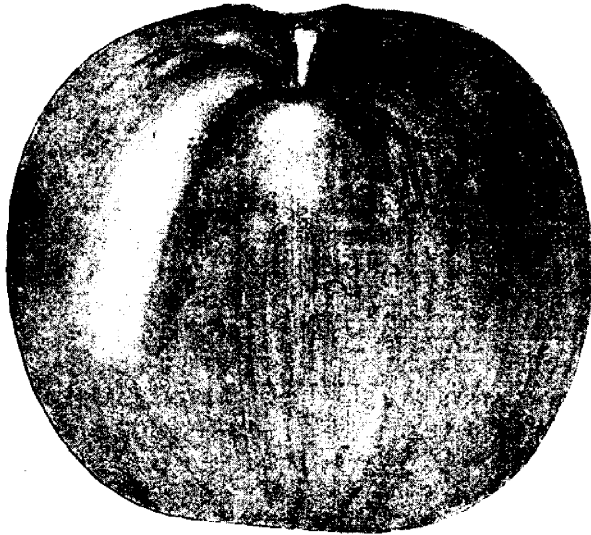


FIG. 1190.—FAMEUSE APPLE.
(From a pencil drawing by Harold Jones, Maitland.)

ences to the Fameuse apple. The quality of the Fameuse was excellent last season, where any attempt was made to spray the trees. Perhaps more Fameuse were exported and sold in Great Britain, last season, than ever before. Sold under the name of "Fameuse," too, they brought better and higher prices than the Western "Snows." When Fameuse were picked and barrelled early, and shipped immediately, they arrived in fair condition, and netted fairly good prices in London,

other reason than because the Newtown Pippin is a fashionable apple with the fashionable people of London; so is it possible, if "La Fameuse" (which, in the opinion of those who know both apples well, equals, if it does not surpass, in its season, the former), if put on the London market in its best condition, will command equally good prices when it too becomes a "fashionable" apple. I believe there is a large trade to be worked up by exporting our Quebec Fameuse to London, and that in time,

THE FAMEUSE APPLE.

as the taste for it increases in that metropolis of the world, so will the demand and the prices increase. Never has "La Fameuse" been exported in sufficiently good condition, in large quantity, to encourage the demand for it in England, but the past season, I believe, is only the beginning of a large trade. A few years ago it was supposed that the day of Fameuse was over, or that it would not pay to continue to plant orchards of that variety, and owners of old orchards were disposed to cut down their trees; but since the

that has all been changed since our markets have been glutted with California fruit. Whether we shall be able to ship these varieties in cold storage advantageously, I am not prepared to say.

Let me say a word about the necessity of more carefully handling our best apples, both in picking and packing. The system practised in some districts of the picker ascending the ladder with a bag slung across his shoulders, in which to gather the apples he picks, is one not to be recommended. I believe

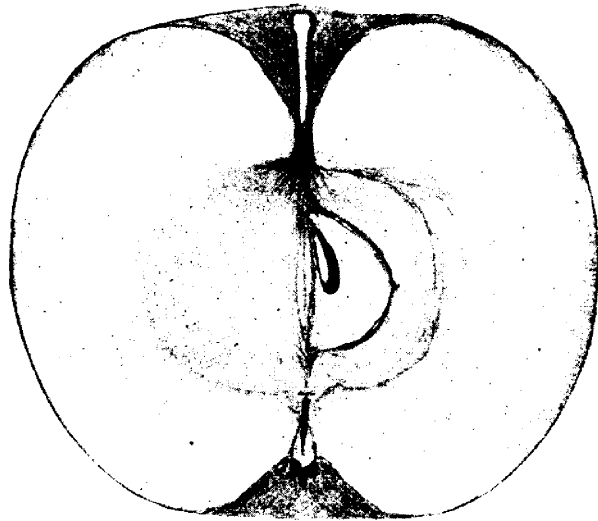


FIG. 1191.—FAMEUSE APPLE.

advent of the spray pump, a new lease of life has been given to the old trees, and no one now need fear to plant out new orchards.

Since California fruit has reached our markets to compete with our summer and fall apples, it does not seem necessary to set out large orchards of trees bearing apples only to compete at low prices with this foreign fruit. A few years ago our Red Astrachans, Yellow Transparent, Strawberry, Peach and Duchess apples were the most profitable apples to grow in this Province; but

the first bruise the apple receives at the time of picking, almost imperceptible at the time, is the worst; and from that moment the fruit rapidly begins to decay. There is no receptacle better adapted to gather apples in than the ordinary round peck basket, lined inside with canvas, to prevent bruising. Apples of La Fameuse type should be handled like eggs. It pays to do it. Where it is practicable also, I think it better to pack the barrels or boxes in the orchard. Head up the barrels then or the next day. I have no faith in the cry that

HOW TO GROW THE ENGLISH GOOSEBERRY.

apples must be allowed to sweat. I never saw any necessity whatever for that. The less handling you give the fruit the better. It is a mistake to keep our delicate apples in unheaded barrels (standing on end, of course), in a barn or shed, exposed to all the variable changes of the atmosphere, sometimes for weeks before packing them in barrels for market. The fruit mellow and

ripens much more quickly, and when we begin to pack up the fruit for market we find that the bottom half of the barrel contains many bruised specimens caused entirely by this mode of handling the fruit. The best apples should always go into new barrels. On no account should No. 1 fruit be put into old flour barrels. It is a great error and short-sighted policy.

HOW TO GROW THE ENGLISH GOOSEBERRY.

THE English gooseberry is unfortunately subject to mildew in this country, and Americans know little or nothing of this very excellent fruit. Martin Benson, in the March number of *Vick's Magazine*, tells how he raises it successfully without mildew, and has large crops of the finest fruit.

The soil should be rich and deep, and, if possible, a slope facing the north should be chosen. It should also be sufficiently removed from any tree to prevent the roots robbing the plants. The soil should be plowed as deeply as possible, and it is also of great advantage to subsoil it. This will give a deep bed of loose soil, which will retain moisture much better and keep cooler than when plowed as ordinarily. The plants should be set six feet apart each way. After or before the plants are set I prepare posts each eight or ten feet long of some lasting timber; these are set in the ground two feet deep, and ten

or twelve feet apart each way, among the gooseberry bushes; pieces of timber are nailed from post to post, and on these are nailed slats or laths enough to make a half shade. This will furnish all the protection needed from the hot sun, and at the same time permit of a free circulation of air. After this is done I mulch the entire surface of the ground to the depth of a foot with straw or other litter, placing it up close around the plants. This mulch must be placed on thick enough to keep down all weed growth, and each fall an additional amount should be placed over the old. If the soil is rich to begin with, and the mulching is attended to properly, it will be years before the plants require fertilizing, but if needed it can easily be applied by using coarse, strawy manure for the mulching material. The soil, if mulched as directed, will always remain cool and moist, and fruit of the greatest excellence, and in the greatest quantities, will be produced.

PEACHES are reported a short crop except in California, Arkansas, Washington and Oregon, and Southern Ontario. Apples are less than half a crop except in the far west. Grapes will be a fair crop throughout the United States, and very good in Ontario.

THE PEARL GOOSEBERRY grows a little larger than our engraving under favorable conditions. Mr. Herbert Kerman sends us some samples on the 26 July measuring nearly $\frac{7}{8}$ of an inch in diameter.

GRAPES THAT ARE FINE BUT HARD TO GROW.

GEORGE W. CAMPBELL, BEFORE MICHIGAN STATE HORTICULTURAL SOCIETY.

ALL admit that the fine grapes are the most desirable, and the practical enquiry is, Why are they more difficult to grow; and how can these difficulties be overcome? The principal reasons why the finer variety of grapes are harder to grow are, want of hardiness in severe winters, and a disposition to mildew of the foliage in summer. Some of the finer varieties have but one of these difficulties to contend with; others have both. In localities where mildew does not prevail to an injurious extent, lack of hardiness in winter is so easily guarded against as to be practically of little consequence, in comparison with the gain of having fine grapes.

Pruning the vines in Autumn, as soon as practicable after the falling of the leaves, and laying the canes upon the ground, affords ample protection to quite tender varieties where there is regular snow fall, and the vines are covered with snow during the coldest weather. In localities where cold is extreme, and without snow, it is necessary to cover with a little earth, and this I have found sufficient for the finer hybrid and tender varieties.

It is generally true that the finest quality in grapes is accompanied with a more delicate constitution and sometimes, but not always, with slender growth. Many of Roger's Hybrid Grapes, which are fine in quality, are very strong and vigorous in growth; not specially inclined to mildew, and, though not hardy under extraordinary cold, will endure a temperature a little below zero, without much injury. I think they will all bear as much cold unimpaired as our cultivated peach trees.

Among the most popular of Roger's Hybrids, I will name No. 3, or Massasoit, as the earliest and one of the best. Wilder, Lindley, Barry, Herbert, Salem, and Agawam, are all, when grown under favorable circumstances, finer in quality than the somewhat hardier sorts, Hartford, Champion, Telegraph, Worden or Concord. By giving a little winter protection all the above named hybrid varieties can be grown with nearly as much certainty as the Concord, and its seedlings.

The Delaware Grape, which is still among the finest, only fails where the foliage is injured by mildew. In favored locations, where the temperature is equitable and the leaves remain healthy, the wood ripens perfectly, and the Delaware endures the severest winters without protection and without injury. It is also singularly exempt from rot, generally escaping from this malady when others are destroyed. Two varieties may also be named which are really fine, and which only require winter protection to be grown as easily, and in most places as certainly, as the Concord. These are Brighton and Jefferson. I have grown these varieties since their first introduction; and with me they are vigorous in growth, healthy in foliage, very productive, bearing large and handsome clusters, and of the best quality.

Wherever there is a market that appreciates and will pay for fine grapes I believe it will be found much more profitable to grow these fine varieties, with the little additional trouble and expense of giving winter protection.

The other difficulty which renders some of the fine varieties hard to grow,

SUCCESS WITH STRAWBERRIES.

the mildew, is not so easily overcome ; but I have found that sulphur and quicklime in equal parts, blown upon the foliage of the Delaware, early in the season, upon the very first indications of mildew, has always arrested and prevented it spreading to any serious extent ; and vines so treated have ripened their fruit and wood well, even in unfavorable seasons.

Another difficulty with the Delaware may be mentioned—its tendency to overbear. It will often set double the

grapes it can bring to maturity, and, unless they are promptly thinned out, the present crop will be lost and the vine enfeebled for many years to come.

A few other fine varieties among the hybrids of more recent introduction may be mentioned, which are partially tender in winter, and also subject to mildew in unfavorable seasons ; and to grow these successfully not only winter protection, but remedies for mildew of the foliage would have to be applied.

SUCCESS WITH STRAWBERRIES.

DO not allow plants to set beyond the limit of six inches in width in the rows. Preserve the balance of the four feet for the thorough pulverizing and cultivation of the soil.

Cover the plants thinly, late in Autumn, with coarse litter of almost any description, the most easily obtained where you live. Allow the mulching to remain on the row during the fruiting season in order to protect the fruit from having the sand beaten upon it during heavy rains. But do not neglect to cultivate the vacant spaces between the rows as thoroughly the second season as you do the first. Allow the plants to spread to about nine inches in width the second year. Treat them otherwise precisely the same as during the first season, but in Autumn give the rows a liberal dressing of fine stable manure ; and as soon as the second crop is harvested plow the plants under, preparatory for

some other crop the next season.

There is perhaps no practice so fatal to successful strawberry-growing as the one almost universally adopted of allowing the ground to remain uncultivated until after the fruit is gathered. This is done to avoid the sanding of the fruit, but it must be borne in mind that under this practice, with the droughts which occur two years in five, during the ripening of the fruit, the crop is practically lost where otherwise, by the retention of moisture in the soil, through a thorough system of pulverizing and cultivation, a full crop of the best fruit could have been obtained. In connection with this we observe the most important fact of all, that during the prevailing droughts the short crop causes the market to rule high, so that under this system of thorough cultivation we are double rewarded for the extra labor expended in the production of a full crop of first class fruit.



BLACK CURRANTS.

WE use them for the table, with sugar the same as red ones, but for this purpose they need to be thoroughly ripe; we make jam of them and can them for winter. Jelly and cordial, which are highly esteemed for medical purposes, can also be made from them. The jelly is thought to be particularly beneficial in cases of sore throat, and the cordial in summer complaints.

It has always seemed strange to me that more attention has not been paid to them, for the cultivation is attended with very little trouble and we have always found a ready sale for them in market. In fact, with us, the demand has always been greater than the supply and the price obtained a little better than that paid for red ones.

The bushes are easily propagated from cuttings, which can be planted either in the fall or in the Spring. With proper cultivation they make rapid growth and bear quite abundantly the second season after planting. They

are long lived, some on our premises being more than twelve years old to my certain knowledge, and they still bear fruit in great profusion. They are not troubled by the currant worm. Some think that by planting red currant bushes among the black ones the former escape the ravages of the currant worm, but I am not quite prepared to vouch for that. So far as I know, they are not troubled by any blight or disease.

Currants are so much more easily picked than strawberries or raspberries that they find favor in my sight. The stooping position necessary in picking strawberries is very tiresome, and one comes out of the raspberry season with hands scratched and full of thorns and garments as badly rent as if they had sojourned forty years in the wilderness.

To those who are raising small fruits for market, I would say try some black currants. If you have any English customers you are sure of a market for them—Vick's Magazine.

ADVICE ABOUT STAWBERRIES.

1. Strawberries do well on almost any well drained soil, which is free from frost, reasonably fertile, and not infested with white grubs.

2. There is little danger of making the soil too rich, but there is a possibility of injuring the plants with commercial fertilizers, if placed to closely about the roots, and with coarse manure.

3. Commercial fertilizers seem to have no effect on white grubs, nor does manure, but the latter stimulates the plants, so as to repair the damage.

4. The best fertilizers are well rotted manure, bone meal and wood ashes.

5. The best method of preparing the soil is to plow in the fall, mulch with manure, and fit the ground in the Spring with cultivator and harrow.

6. The best time to set strawberry plants is in early Spring. When plants are to be set in the fall they should be especially grown for the purpose, either in frames or in pots.

7. For matted rows the plants should be set 18 inches by four feet apart, and for hills, one foot by three.

8. In hill culture the runners are all removed, and for the best results in matted rows a part should be cut off, or some of the plants dug out.

9. Generally, it is better to keep a bed only one season, but if kept longer the best treatment is burning soon after fruiting.

10. Winter protection should be given by mulching, and the best material is swamp hay.—Ohio Exp't Station Report



❖ Flower Garden and Lawn. ❖



FIG. 1192.—VIEW IN MISS HODGES' GREENHOUSE, ORILLIA.

COLOR AND FORM IN THE FLOWER GARDEN.

Now that woman is at front in so many lines, it need cause no surprise to meet a lady florist, and one, too, who makes her chosen vocation a success. Such a one is Miss M. Hodges, of Orillia, who writes the accompanying article, but not like her male competitors, she does not readily consent to furnishing her photograph to accompany her article. She has, however, sent us a pretty view in her greenhouse in spring time, the fine collection of tulips, hyacinths, ferns, etc., proving her to be a successful florist.

With reference to flowering plants for summer bedding I shall speak briefly, as we need color to brighten up the

wide stretches of green of our lawns and the rich foliage of our tree, which should always be the most prominent features of our gardens, and our first consideration. When arranged with a fair amount of taste, the scarlet geraniums, tricolors, various foliaged geraniums, coluses, lobelias, petunias, and calliopsis, present an appearance that is at once pleasing to the eye and within the bounds of correct artistic taste. It is of

COLOR AND FORM IN THE FLOWER GARDEN.

the great meaningless mass of color that we have to complain, and the cutting up of our lawns into stars, diamonds, and half moons, circles and other figures, and crowding them with a motley mass of inharmonious colors.

We, who have limited space, must content ourselves with fewer varieties, choosing only the prettiest colors, and placing them with proper care where each will look its best, and give the best results and effects. To do this one must select with an idea of combination as well as individual beauty. The Mosaic, or carpet bedding, which gives one the impression that a few Turkish rugs have been left lying out on the lawn, used to seem a necessary adjunct of a wealthy man's lawn, but is, every year, being relegated further to the background. Groups of shrubbery, following the lines of nature as nearly as possible, interspersed with, in unexpected nooks, masses of color in the way of either perennials or solid beds of one, or not more than two, colors in annuals, always first choosing appropriate surroundings and the most effective background for each color. For clumps of color in perennials, or that can be used as such, I might here mention the double flowering helianthus (or sunflower), dahlia, delphinium, canna, almost the entire family of lilies, phloxes, campanulas, etc. In

annuals; verbenas, astors (an endless family of beautiful color and forms), zinnias, stocks, petunias, antirrhinums. For a border at the foot of a hedge: sweet allyssum, blue and white lobelia, or pansies. Pansies in a mass row of about two feet wide, are very effective lined with indistinct colors and markings.

Supposing we have a series of beds alongside one of the principal walks to fill, and instead of following the orthodox plan of crowding them with bedders of the ordinary type, we arrange every second or third with plants remarkable for the beauty of their leafage, and the others with flowering plants held in the highest favor, the change would be complete and for the better. The masses of color would be broken up, a pleasing variety afforded, and an effect not wanting in richness produced, and each year this could be changed or varied.

Indeed, the arrangements that suggest themselves appear to be well-nigh innumerable, and those who determine to renounce their allegiance to the present out-of-date system may be assured that their progression will be well repaid, not only by the pleasure they themselves will experience, but by the appreciation they will receive from people of the highest taste.

M. B. HODGE,

Orillia.

MULCH THE ROSE BEDS.—A mulch on rose beds is quite beneficial during hot weather, not only preventing the too rapid evaporation of moisture from the soil, but also keeping the roots cool. The most convenient material for this purpose is to be found in clippings from the lawn, this being a covering that has frequently proved most satisfactory.

When it is possible to do so, the rose beds should be freely watered during dry weather, for by this means quite a sprinkling of flowers may be had from the June roses (hybrid perpetuals) later in the season, besides greatly improving both quality and quantity of flowers on the so-called ever-blooming sorts.

THE ROSE SEASON, 1897.



THE rose season for 1897 is past, and we might almost say that for bloom and magnificent display it has been a jubilee season for that queen of flowers. Never before had I such a gorgeous display and for many days my garden was a source of general attraction to lovers of the beautiful. But the season was

course has much to do with this variation.

Among the darker sorts the Jean Liabaud has easily led all the others, Baron de Bonstetten coming second, Fisher Holmes third. Prince Camille was not at all satisfactory. Of the crimson varieties the Jack still leads, and though not as compact a rose as one would like it is not likely to be sur-



FIG. 1193.—VIEW IN MR. RACE'S GARDEN, MITCHELL.

nevertheless disappointing in that it was so short, owing to the extreme hot weather which set in with the first blooming, and continued till every bud was either forced into bloom or withered before opening

Every year seems to bring a new experience to the rose grower, and every season fresh favorites. Roses that I have given only second or third places heretofore have easily taken first rank this season, and some of my former favorites have done only fairly well this year. The character of the season of

passed for years to come. Another magnificent rose of a lighter shade is the Ulrich Brunner which among its class has easily taken first rank this season. Among the still lighter shades the Jules Margottin has quite outstripped the Magna Charta this season, but both have been beaten by the Francois Michelin, Baron Prevost, and Duke of Edinburgh. Going a shade still lighter what can surpass Madame Gabriel Luizet for beauty of form and profuse blooming? It is truly a charming rose, and should be first choice in its class in

THE ROSE SEASON, 1897.



FIG. 1194.—VIEW IN ROSE GARDEN.

every collection. Coming to the whites, all others for outdoor growing must take a second place to Madame Plantier, and Merveille de Lyon. I cannot close, however, without saying a word for climbing Jules Margot in and climbing Victor Verdier. The former, cut back to three

feet, forms the centre of Fig. 1193, having at the time it was taken over 40 full blooms. I may, say however, that those views give but a faint idea of the mass of bloom or brilliant display they are supposed to represent.

On the extreme left of Fig. 1194 in the



FIG. 1195.—VIEW OF SIDE OF HOUSE.

OUR NATIVE CYPRIPEDIUMS.

distance, is a bush of Madame Plantier, with nearly one hundred full blooms on it, though it does not show any number very distinctly. Fig. 1195, with the side-house view, contains a double row, 20 feet long, comprising fifty varieties, all splendidly in bloom. The photo. does not do the display anything like justice.

Just a word in conclusion about treatment. The first thing that attracted the attention of every visitor was the richness of my foliage. This I attribute largely to a strong application of unleached hardwood ashes early in the

season. Besides supplying potash the ashes help to retain moisture in the soil after the dry season sets in. I dig in a coat of manure during August or September and leave all the growth thus encouraged till the following spring.

I used no insecticide this season except my finger and thumb until the 28th of June when the leaf slug got so bad that I was compelled to give a spraying of Paris green water.

T. H. RACE.

Mitchell.

OUR NATIVE CYPRIPEDIUMS.



FIG. 1196.—C. SPECTABILE.

C. PUBESCENS not *spectabile*, was the orchid shown on page 269, in illustration of Mr. R. B. Whyte's article on "Our Native Cypripediums." We now give the engraving of C. *spectabile*,

which should have appeared in that connection, though reduced in size fully one half. We highly value Mr. Whyte's communication, and hope he will continue as a constant contributor to our floral department.

IN GROWING FILBERTS never grow the plant shrublike, but grub up every shoot but one and train it in the form of a tree. All young shoots should be kept grubbed up until the tree begins bearing, after which young shoots will cease coming up. Filberts can be planted 10 ft. apart in the rows and rows should be 100 to 150 ft. apart for satisfactory results. The intermediate space can be planted to many varieties of grain, vegetables, strawberries or anything that suits the views of the owner. Filberts require an abundance of water and should be irrigated often in an irrigated country: in localities where the natural rainfall is depended upon, they should be planted where the soil is moist and damp.—Farm and Home.



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

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

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

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

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

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

✦ Notes and Comments. ✦

WOOLVERTON STRAWBERRY.—Mr. J. B. Bruce, Vernon, B.C., thinks there must be a mistake in calling the Woolverton a late strawberry. The following is a record of his varieties with dates of ripening: Michel, June 1st; Wilson, June 3rd; Woolverton, June 3rd; Clyde, June 7th.

ALL BERRY PICKING is best done by the quart. Indeed, with the present low prices prevailing we must figure closely if we make any profit, and a uniform price ought to be paid by growers.

We have been paying 1 cent a quart for picking gooseberries, currants, strawberries and blackberries; 1 to 2 for cherries, according to variety and crop; 1½ for raspberries, except for first and last pickings, for which we pay 2 cents. Is this about the scale of prices adopted by our readers?

"CHRYSANTHEMUMS OF 1896," is the subject of Cornell Bulletin 136, which contains several full sized photogravures of choice blooms, *e. g.*: Oriental Glory, Good Gracious, Miss Magee, Rosy Imperative, and Lenawee. As good blooms as are shown, it is stated, may be grown in the house window; and to succeed well, amateurs should grow plants with from three to six large characteristic flowers.

CANADA'S GREAT VICTORIAN-ERA EXPOSITION AND INDUSTRIAL FAIR.—We have received a copy of the Prize List for the great Victorian-Era Exposition and Industrial Fair, which is to be held at Toronto, from the 30th August to the 11th September next. It promises to exceed in magnitude and attractiveness all previous exhibitions held in Canada. Among the many special

NOTES AND COMMENTS.

features to be provided will be a duplicate of the principal features of the great Jubilee procession in London, England, on the 22nd of June, all the uniforms, costumes and properties being brought from England for the purpose at an enormous cost. Anyone desiring a copy of the Prize List can procure one by dropping a post-card to the Manager, Mr. H. J. Hill, Toronto.

CURRENTS have been a very dull sale this season in Ontario, in some cases only 2 and 3 cents a quart. Indeed, some of our near markets will not take them at all, a most discouraging state of affairs when the crop is so good.

Fortunately some of the more distant markets, in large cities, are more satisfactory, perhaps because of the demand for currant jelly among the wholesale confectioners. Buffalo reports 4 and 5 cents a quart, and a Commission house in Chicago quotes \$2.50 per bushel, or, about 8 cents per quart. We have shipped two or three hundred baskets to Chicago to test the matter, and will report the result. There is one thing in our favor, and that is the refrigerator cars, by which we can transport fruit in car-lots at little more than freight rates.

THE SAN JOSE SCALE ON FRUIT.—Our British Columbia friends are wide awake to the danger from the importation of fruit infested with the San Jose scale. More than a year ago we received a copy of the Act providing against the importation of fruits and fruit trees affected with insects or fungi, and the provisions are being rigidly enforced. So far the orchards in their fertile valleys are free from Codling moth, and every care is taken to prevent its introduction. About two years ago a carload of fruit from this province was seized and destroyed, because affected with Codling moth; and now the same

energetic measures are being employed to protect the country from San Jose scale. The following is a clipping from *The Vancouver World* of Sat., 3rd of July:—

Inspector Cunningham, whose vigilance in protecting fruit-growers and consumers from the introduction of diseased fruit is worthy of all praise, has seized and condemned a consignment of California apples, which arrived by the last California steamer. The apples are badly infected with the deadly San Jose scab. The samples which a *World* representative has inspected show the fruit to be not only unfit for human food, but constitutes a serious danger to our own orchards. The samples can be seen in *The World* office.

The Board of Horticulture is doing good work in protecting our people from imposition. Mr. Cunningham believes that this shipment of apples, which comes consigned to a prominent firm, was condemned in San Francisco, and sent here as a last resort. When the consignor has paid the expenses incidental to this venture he will think twice before again taking the risk of dumping diseased fruit on British Columbia markets, for no chances of infection will be taken in permitting infected fruit to be landed at any quarantine port in the Province. A member of the Board of Horticulture leaves for the interior next week whose duty it will be to inspect quarantine stations and effect such reforms in the administration of the regulations of the Board of Horticulture as may be deemed necessary. American shippers will do well to make a note of this incident and of the determination of the Board of Horticulture to guard our fruit growing interests. The board will fight to the end any attempt made to make this Province a dumping ground for bad fruit.

NOTES AND COMMENTS.

SEEDLING CHERRY.—Mr. John Gormley, of Pickering, sends samples of a wonderfully firm cherry, that would be of great value for distant shipments. The form and color is about that of the Wragg, or English Morello, but the flavor is very superior, being like that of a Bigarreau, which it also resembles in texture of flesh. It appears to be superior to the Bigarreau in its resistance of decay, these samples keeping a week in perfect condition. We would like to hear more of this variety.

THE PEACH CROP in the Niagara district as far as Hamilton is very heavy, many growers are for the first time thinning their trees to prevent their breaking down with their load of fruit. Advices from Chicago indicate that the western crop is very light and that the prices of peaches in that market will be very high. This will afford a fair exchange of shipments, for in previous years Michigan peaches have flooded our Canadian markets.

RETURNS FROM CHICAGO for currants were not very satisfactory owing to the high express charges of \$1.50 per 100 lbs. The first shipment of currants sold for about 6½ cents a quart, leaving a net return of about 3 cents; and the second sold at about 4c., leaving a net return of about 1½ cents. A duty of 2 cents a pound has since been put on currants by the U. S., which will shut out our shipments. Possibly we can export them in cold storage to Great Britain.

THE LEAF CURL has been fairly well prevented in the Michigan peach orchards on the trees which were sprayed with Bordeaux mixture both before and after the buds opened.

CHILD'S RUBY AND WILDER CURRANTS have come to hand from B. F. Clos-

som, Highland Creek. In size of berry both are about equal to the Cherry, but the bunches of both, like those of Fay's are larger. Of the two, Wilder appears to be the more compact in bunch. Mr. Closom says the bushes are strong, upright and vigorous, not sprawling like Fay.

THE WRAGG AND THE ENGLISH MORELLO are ripening about the same time (July 20th) and show very little distinction. The latter is a trifle the larger as grown at "Maplehurst," but which is the most productive must be decided later.

OF THE SOUR OR KENTISH CHERRIES, the most satisfactory thus far with us is the large Montmorency. The old Pie cherry, or late Kentish, has long been grown in Canada, but is subject to curculio and black knot. In flavor it is very acid, as is also the Montmorency Ordinaire, which much resembles it; but the large Montmorency is a mild tart, a larger size, and a good bearer.

MR. W. M. ORR, Provincial Superintendent of Spraying, called on the 23rd July. He is engaged under the Department of Agriculture, inspecting orchards for San José Scale, and brought specimens of plums and apples from an orchard near the border of New York State which were literally swarming with San José Scale. They clustered in great numbers about the stalk, and caused a reddish hue, which would puzzle the uninitiated. The trees were alive with the terrible pest, which had been imported on a lot of 800 trees from a nursery in New Jersey, and fifty trees of this lot were in the orchard referred to. Inspector Orr states that the owners of infected orchards demands unreasonable compensation for the destruction of infested trees. Our government needs to take the most decided and determined action in this matter, or our business of fruit growing

NOIES AND COMMENTS.

will be ruined. Possibly it will be necessary to pass a law compelling the destruction of infested trees, and that with little or no compensation, for of what value is a tree infested with San José Scale? The labor and expense of treatment would be as much as a tree is worth.

MR. ALEX. MCNEILL, of Windsor, writes his grape crop never looked better. He has just put in 8000 tile, and built 25 miles of trellis, besides preparing to build a barn to replace the one destroyed by the cyclone last year. He is off now to Bay View, Michigan, for two weeks' holidays.

NOT ALL PROFIT.—Mr. McNeill is inclined to criticise Mr. E. D. Smith's article on "Fruit Growing." He writes: "I am a little surprised that no one has written any comment on the papers by our friend Mr. E. D. Smith. It appears to me that there is another side to the question that should be presented. My first impulse when I had finished reading the papers was to sit down and show where he was likely to lead your readers very much astray. But twelve or fourteen hours a day of manual labor on my part has saved Mr. Smith's reputation as far as I am concerned, and it is just possible that a few hundred more deluded victims will buy nursery stock at a good round figure in the fond hope that they will at once 'rake in the shekels,' without any of the precautions or conditions necessary in other professions. I am in hopes of having a word to say on this subject yet."

THE FRUIT PROSPECTS have changed very decidedly since we last reported. The apples have fallen so badly that the crop will be very small indeed, excepting a few varieties. The Northern Spy promises a better crop than any other,

being well loaded with fine clear fruit. Unfortunately the scab has appeared this season on many varieties; we have noticed it particularly on Early Harvest, Red Astrachan, Cranberry Pippin, and Greening. The Bartlett pear is clean but the Flemish Beauty and Louise are very badly affected.

WHITE HOLLAND.—This is the finest white currant we have seen. The bush was sent us for testing but we have lost the record of the originator. The berries are about equal to those of the Cherry in size, and more productive. The bunches are very long, many of them measuring five inches in length. The flavor is mild subacid, and the season from July 12 to 25th or about the same as the Cherry.

FARMING, our excellent contemporary, which deals with the interests of the farming community in the same lines that we do those of the fruit growers, is to be commended for the excellent article which has appeared in the July number on the San José Scale. This deserves perusal by all fruit growers. We quote a sentence or two. "We wish particularly to impress upon the minds of fruit growers that as soon as this insect is found to occur in an orchard the most strenuous measures must be taken to stamp it out. No half way steps will suffice. Fruit growers must be mutually helpful in an emergency like this." We regret that they are not as mutually helpful as we could wish. We know of a fruit grower who refused \$250 cash, from the Ontario Inspector of San José Scale, for the privilege of destroying about 100 infested trees in his orchard. If this is the way our growers act, we must have legislation empowering the inspector to destroy the trees without compensation to the owner.

Question Drawer. ❧

Sage.

958. SIR,—I would be pleased if some reader would give in this Journal some hints on growing sage for market.

J. B. BRUCE, *Vernon, B.C.*

Insect on Currants and Gooseberries.

959. SIR,—Being much interested in Horticulture and Fruit Growing on a small scale, I would be glad to learn from what cause it is, and what it is, that has so baffled my efforts this season in attempting to grow currants and gooseberries. This season I was expecting some returns for past labor. I have grown small fruits for several years, but never with such a discouraging feature as this season. The bushes were well enriched, well mulched and were all that could be desired; all leafed out and showed healthy habits, were covered with blossom and looked very promising, when a tiny insect made its appearance about the size of a pin's nob, in color brown and black, and literally infested the new growth and attacked the fruit by the myriads when it was just setting, sapping the vitality of the bushes, causing the leaves to turn brown and in some instance to kill the bushes. I tried a weak solution of Paris green, which I have always used with success for the ravages of the currant worm, but in this invasion profited *nil*; the black currant bushes were attacked perhaps worse than any. The result is that, from some forty-five bushes, there will not be more than a handful of fruit. This pest on small fruits is new in my experience, and that while apple trees growing on the same lot have this season been free of any ravages of insects, which is the first time I remember the like. Would you kindly inform me how I may prevent a repetition of the evil, whether it is a sort of blight, or what?

REV. W. A. ADCOCK,
East Angus, Que.

Snyder Blackberry Blights.

960. SIR,—Some months ago I asked the HORTICULTURIST why my blackberries dry up, when they ought to grow. I enclose twig, cut 13th July. It sets fruit, but seems to wither all at once. Last year the whole crop was affected, now only a small part. The soil is moist and fertile.

T. M. GROVER, *Norwood.*

Reply by Mr. John Craig, Experimental Farm, Ottawa.

In Eastern Ontario and throughout the Province of Quebec, blackberries frequently set fruit which they fail to mature. This failure is due mainly to three causes:

(1) Winter injury; (2) dry weather; (3) diseases. The specimens received show a certain amount of injury by winter at the tips. In order that fruit may be matured, blackberry canes must be supplied and must carry a rea-

sonable amount of foliage to the ends of the tips, otherwise the fruit-bearing spurs have nothing to support them. The tips received lack in this respect. This is a prolific cause of failure in the colder portions of Ontario and Quebec. Again, on cultivated ground extremely hot weather during ripening time, frequently shortens the blackberry, as it does the strawberry and raspberry crop, and the extraordinary high thermometer of the last three weeks was sufficient to cause blackberries to shrivel prematurely. Blackberries are also affected by the mycelial form of orange rust (*Gloeosporium*). This disease occasionally does not make its presence apparent by the orange rust form on leaves, but is at the same time quite injurious. I believe as a general rule that blackberries may be grown with greater success in Western Ontario if a system of mulching is practiced instead of that of clean cultivation.

Pie Cherries.

961. SIR,—I mail you to-day sample of cherries, kindly let me know true name. What are the best kinds to plant in Essex Co., one for early, one medium, and one late, that is hardy and will yield a good crop every year, and if the three you will mention will fertilize each other if planted in blocks, or would they require other kinds planted between? Is there an early kind that will yield as well as Early Richmond and ripen a week or 10 days earlier? By sending me particulars you will oblige.

G. FINDLAY, *Walkerville, Ont.*

The sample sent is apparently the large fruited Montmorency. This variety is not so tart as the Early Richmond, or the Late Kentish, larger, and the tree is more productive. However, none of the Kentish can be called very productive, not averaging more than half the quantity yielded by the Hearts or Bigarreus. The three hardiest and most regularly productive pie cherries are Early Richmond, Large Montmorency and English Morello. These three ripen in succession and would cover the season fairly well.

The Early Purple is fully ten days and more earlier than Richmond, but is of an entirely different class. No doubt it would succeed in Essex.

* Open Letters. *

A Fruit Grower's Retrospect.

SIR,—The amazing advancements in the methods and results in Canadian fruit growing to-day, appear to us as one of the most prevalent evidences of real permanent advancement in all that goes to make life so desirable in the history of any country. But very few of our younger people to-day, can have any proper conception of the early struggles of their forefathers in their efforts to bring about what is now seen and enjoyed. For purposes of salutary retrospect, allow me to take rapid glances backward in the history of this Western Ontario, and view the times that are now very far off? In 1847 much of this great country was very new and much not inhabited. Forests of great extent abounded everywhere and the scattered inhabitants were struggling with them to get an opening to let in the life-giving sunlight. It was then that the germs of what we now see were first cast into this rich and fertile soil, and began to show the beginning of fruitful life. From that time to this the process has been going on until all the wonders and the beauties of to-day stand out fully before our eyes. At that time I was aged 14 years, having been brought 2 years before, a mere stripling from the old shores across the Atlantic. Then the attempts made in Agriculture and more especially in Horticulture, were unmistakably primitive, but they had the germs of promise in them. At that time there was no James Dougall's Nurseries at Windsor; no Arkona Nurseries at that place; no Saunders' Test Grounds at London; no Arnold's Nurseries at Paris; no W. H. Holton, at Hamilton, and I very much doubt that there were any Dr. Beadle's Nurseries at St. Catharines, or Geo. Leslie's Nurseries at Toronto. All the nice things that were wanted in the line of fruit trees, ornamental shrubs or plants had to be brought direct from the United States, and many sad disappointments we suffered thereby. But we have outlived them and now smile at what then caused us such vexation.

The patient industry and growing intelligence of the people, the agreeable, buoyant and stimulating climate, the extreme virgin richness and fertility of the native soil contributed to the best results and filled their barns with plenty, and their hearts with confident satisfaction, and their lives with purest enjoyment. Towns and cities were few and market communication was difficult. Everybody grow their own as far as possible, and so fruit and vegetables and whatever pertained to the rudest gardening was of little value and not esteemed as property. But as the country and its people grew, which they did apace, this state of things was soon changed and a new era began to dawn upon us. Cities and towns of great vigor and forceful palpitating life began to be establish-

ed here and there over the land, on sure foundation. The whole country soon felt the force of this onward movement. Good roads were studied and prepared and well maintained. Communication with the rising centres was so made easy and pleasant, and a fine profitable intercourse was soon established and so has come the state of things we see around us to day.

But the full development of what we now have, has mostly been the steady onward work of the past 25 years. The position of fruit growing in 1872 was in no sense that of a developed industry, at least in Western Ontario. At that time fruit was not considered property and not subject to the protection of property. People considered that fruit could be taken wherever it was found accessible and the owner's fences could be torn down and the fruit plants pulled up by the roots before his eyes or otherwise. Many a time my wife and I have stood the most of the night to try and protect our fruit products. All this, and much more, was largely our personal experience in our incipient stages of progress as Canadian fruit growers. I am now so deeply thankful to be able to say, that I have lived to see all this sort of thing forever past, nothing of it is seen or felt now. Our people, even to the very youngest of them, know better, and the fruit grower is not only recognized as an honorable citizen, but he is protected and even profoundly respected. Thanks for the growing intelligence of our people for this state of progress and for what we have attained. In this sense we most sincerely prize a kind and fostering protection.

In that year, 1872, "The Arkona Home Nurseries," were established on a very favorable plot of soil well adapted to the purpose. This was the first thing of the kind in all that part of the country and was recognized, and rejoiced in as a great public benefit to the country. About that time or shortly after others were established in different parts of the country and the time for home-grown trees and plants now joyfully come. Such vexing inconvenience had been suffered by the people from American agencies disposing of their surplus stock. So when Canadian nurseries became so well established as to supply our own markets with home-grown stock it was considered a great step in advance, or a movement onwards. From that time to the present our progress has been rapid and definite and the fruit products of this region are now assuming immense proportions. Great quantities of new and choice fruit are now annually grown for home use and for the foreign market, and wherever they go they command a cautious and respectful consideration.

B. GOTT.

Strathroy, Ont.

New Hybrid Cannas.

SIR,—You will remember that at our annual meeting at Kingston, I claimed to have effected crosses last season similar to those producing the new orchid-flowered Cannas—Italia, Austria and others. It is with pleasure that I advise you; that although only a fraction of the seed referred to has bloomed under glass, several similar forms have already appeared—producing the first hybrids of this type of Canadian origin.

These crosses were largely effected on a seedling of my own originating, and like the foreign varieties, present all the characteristics of true hybrids, aside from distinct change in the form of the flower; the plant variation from this seedling was more diverse than that from similar crosses made on my large collection of foreign hybrids.

At the same meeting I also referred to two seedlings of unique form, the inferior petal being abnormally developed, and much longer and larger than those usually classed as superior. Prof. Saunders showed his interest at the time, in this variation, by several critical queries. Since then the leading Canna specialists of the United States have advised me that this novel variation has not yet come under their notice. I hope to refer to these and other items of interest at our Waterloo meeting this fall.

H. H. GROFF, *Simcoe, Ont.*

Fruit Prospects in Quebec.

SIR,—This year is going to be a poor one for fruit, with the exception of currants and gooseberries, which are a heavy crop. The apple trees blossomed heavily, but with a succession of heavy rains, late frosts and continued cold weather, the fruit has not set well, and for all the spraying with Bordeaux every week since the buds began to open, the apples and trees have a measly-looking appearance. The past winter has been severe on fruit trees and plants, on account of not having our usual supply of snow to protect the roots, and the heavy frost at Easter destroyed a great many trees. I did not lose any trees that were in grass, but of those that were cultivated I lost about forty trees. The only plums we have bearing are a few of the North-West varieties, the fruit-buds of the other varieties being tender. The Burbank Japan and Willard varieties have wintered through as well as such varieties as Lombard and Pond's Seedling.

The fruit growers have lost a good friend in the death of Mr. J. R. Clogg, wholesale fruit and commission merchant, Montreal. He was a straight, honest man in business, and in his transactions he was the farmers' friend every time. His death is a blow to the country and to the many friends who knew him.

R. BRODIE,

Orchard Bank, Coteau St. Pierre, Que.

Gooseberries in Simcoe Co.

SIR,—The wet spring has been unfavorable for the setting of gooseberries. Champion shows a large crop, Pearl and Downing a fair crop, and the rest only a few. I mulched heavily with the clearing-up of the sheep yard. I have always thought that the heat and drought favored the mildew, but this year, before we had a hot day, while it was raining hard every day and almost cold enough for frost, my English berries were white with mildew. Fungicides washed off as soon as applied. I do not like mulching, because the weeds come through in spite of all I can do. I intend to burn it all and give thorough cultivation instead. Possibly I shall mulch as far as I can get well-rotted manure with which to do it. My English berries are an awful mess, even the foliage is rotten, as well as the fruit.

In reply to the enquiry regarding English gooseberries, it seems to be a question of soil and locality. Lancashire Lad is a complete failure here. It does not grow enough wood to live, and I have had it about six years. Green Chisel is very promising so far. Success seems to be an American, and does not mildew; the fruit is small.

S. SPILLETT, *Nantyr, Ont.*

New Gooseberries.

SIR,—I have a gooseberry, without name, which I consider the most valuable of any in the garden. Samples sent you by post. It was given to me by Dr. Harkness, Lancaster, who had it from the garden of the late John McLennan (By-the-Lake), where it had been in cultivation for at least 20 years previous. The history of the plant is not to be had, but it is presumed to have been imported from England. It is a very vigorous grower, free from mildew, large berry, good flavor, and great cropper.

The intense heat of the past few days has cooked a considerable proportion of the gooseberry crop, but unfortunately the fruit is ruined in the operation.

Have any of your readers tried the new spineless gooseberries sent out by Joosten, New York, imported from France, last year, and what is thought of them?

C. W. YOUNG, *Cornwall, Ont.*

Fruit Prospects at Whitby.

SIR,—Since last writing you, we have had very warm weather, and in consequence the apple crop has dropped off, so that at present writing I think there will not be more than half of the apples in this district there was

last year. The plum crop, however, is extra, but pears suffered like the apples, only in a less extent.

Small fruits are very abundant and promise a big yield. I visited Lindsay, Peterboro' and Port Hope district last week and found the fruit crop about the same as here, only plums are not so plentiful.

Nearly all farm crops are looking splendid and promise large yields. A few gentle showers would not come amiss just round here.

R. L. HUGGARD, *Whitby, Ont.*

Heating Small Conservatories.

SIR, — Kindly allow me space for a few words in reply to Prof. Taft's article in the June number, pp. 249-50.

The questions of Mr. C. E. German, of Strathroy, respecting his conservatory, were intelligently asked and his description of the premises well given—with one exception—and the reply given by Prof. Taft, of the Michigan Agricultural College, to the paragraph on ventilation was quite satisfactory—to me, at least—but his answers to the three questions on heating were far otherwise, hence my communication in May number.

I am much pleased to note that the learned Professor has now corrected that part of his reply to Que. (a), respecting the temperature. But that part respecting the length of pipe in the fire-box is made very much worse. He says, "It is customary in estimating the fire surface required in a heater, to take one-eighth of the radiating surface to be supplied, and I followed that rule." I am aware that this and many other such *rules* are given for this purpose in different places: but when a sensible, practical man such as Mr. German appears to be—judging him by his questions—asks certain information, it seemed to me that it would be better for him, and probably hundred of others of your readers, to give practical information, rather than quote obsolete rules; hence my reason for writing paragraph (10), as seen in May number, page 179. And to show the absurdity of such a rule as quoted by the learned Professor, I would add that the fire surface of the furnace in that house is only one *forty-seventh* of the radiating surface supplied. And further, that no plant has been injured by frost either in the house where plants are kept in all the windows day and night all the winter through, or in the conservatory since its erection some years ago. And also, that the consumption of coal—and there is no other fuel used—has been less than five tons per annum.

Further on, the Professor says, "The working of pipes does depend on their length, as can readily be ascertained by comparing the circulation of a long run of small pipe with a short run, when both are but slightly above the level of the heater." No practical man will try such an experiment at his own expense.

In his last paragraph, the learned Professor says he "noticed several questionable state-

ments" in the latter part of my article, and then adds, "but will only comment on one of them." Here it is: "In paragraph (8) he recommends 20 gallons of water for heating 1000 cubic feet." (This sentence is inaccurately quoted), and immediately adds ("which would be all right for a certain size of pipe and for a house of a certain shape.") Now Mr. German gave every necessary dimension of the house and said he would use two inch pipe. Will the gentleman say wherein my statement is "questionable"?

The relative efficiency of pipes, for heating purposes, of different diameters, is not relevant to this question; but should the learned Professor wish to discuss this branch of the subject, at some future time, I shall be pleased to "take a hand."

THOMAS BEALL.

Lindsay, July 1st, 1897.

The Black Currant, Success.

SIR, — Last year I wrote you about the Success Currant (Black) sent out by you several years ago, speaking as to its earliness and excellent quality. At present writing, July 3, the fruit of Success is almost ripe, more nearly so than White Grape, while the Reds are only beginning to turn, and the other Blacks, presumably Black Naples, are green and as hard as bullets. Success is, to my mind, the best black currant I ever saw, although Mr. Craig told me at Ottawa last summer that he had several other kinds that were very much like it. The early ripening is a valuable quality, and should made it most desirable for market growers. Insect pests of all kinds are very prevalent here this season. My plum trees are completely covered with aphids.

C. W. YOUNG,
Cornwall.

Fruit About Goderich.

SIR, — Since writing my last there seems to be a change, and not for the better, for fruit growers in this section. I find the few apples there are, are almost all dropping off, now about the size of hickory nuts, besides there seems to be a blight, the leaves curl up and turn black so it makes the trees look rather sickly, and some trees look like the fall of the year with the sear and yellow leaf. Plums also near half size turn yellow and drop. Peaches not much grown here but what there are have the leaf curl bad and some of them are falling. Pears a very good crop but some varieties very scabby, had not much time to spray as we have been very busy with mixed farming, and the season has been very favorably for weeds, that we have to keep the hoes going near all the time. Raspberries are a good crop. I think what Mr. Allen said in last month's HORTICULTURIST is not quite correct, as all I have enquired of say the apple crop is very light. Hay and grain good crops.

WALTER HICKS, *Goderich.*

CARE OF FRUIT TREES.

APPLES and some other fruits yield so well under neglect that it has come to be a common notion that they do not need tillage. But if one contrasts for a moment the known effects of tillage and of neglect upon the soil, he will see at once that good, judicious cultivation must give the better results in orchards.

Let us recall some of the effects of tillage upon the soil—it sets free plant food, promotes nitrification, supplies air to the soil and roots, makes all the soil available by fining it, breaks up the hard pan, makes a reservoir for water, warms and dries the soil, saves the rain by taking it into the soil, prevents evaporation or conserves moisture, sends the roots of trees downward and makes the moisture and fertility of the subsoil available. All these benefits may be as useful to the apple tree as they are to strawberries or currants.

Begin to till when the orchard is planted and till the entire surface. If trees are properly set, and if cultivation is begun the first year, the roots will go deep enough to escape the plow. In spite of what is commonly said to the contrary, the roots of trees spread much farther than the tops; therefore, it is important to till all the land between the rows.

Tillage should be begun early in the season in orchards. Early tillage saves the moisture which has accumulated during the winter and spring; it is capable of putting the soil in fine

mechanical condition, and this condition is more important than fertility; it warms up the soil and sets the plant quickly to work, it turns under the herbage when that herbage is soft and moist, and when there is moisture in the soil, so that the herbage soon breaks down and decays. All crops on the orchard should be plowed under *just as soon as the ground is dry enough* in the spring, for these crops soon pump the water from the soil and cause it to bake and cement together, and the longer they remain, the more difficult it is to cause them to rot when dried under. The chief value of clover, rye or other catch crops in the orchard lies in its fall growth and in its protection of the soil in winter, not in its growth in spring.

Tillage should generally be stopped in late summer or very early fall. The tree has completed its growth. It can spare some of the moisture which comes with the fall rains. We may, therefore, sow some catch or cover crop. This crop will catch the rains and snows of fall and winter and hold them until they gradually percolate into the earth. It will prevent the puddling and cementing of the soil during the winter; it will dry out the soil quickly in the spring.

What this cover crop shall be, must be determined by local conditions. Crimson clover is certainly one of the best. Other good cover crops are peas, vetch, and possibly now and then a year's crop of field clover.—Southern Cultivator.



CABBAGE WORM AND ONION MAGGOT.

The N. E. Homestead gives the following from a Massachusetts correspondent, which we copy for the benefit of those who would like to try the remedy, and who have plenty of burdocks:

Take green burdock leaves and stalks, run them through a hay cutter, put them in a large kettle or tub, and mash them with an old axe or mall, adding water and pounding them to a pulp. Let it stand over night, have the decoction strong, and when you see the first sign of the maggot, use this, and you will find it a dead shot for the maggot. Put it on all the onions as a preventive; I have used it for forty years on onions. I use a sprinkler, taking off the nose, and pour the solution along the rows; I seldom have to apply it the second time.

CATALOGUES.

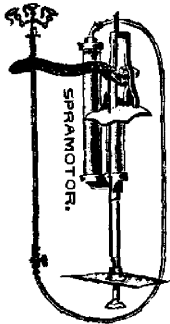
AYLMER SPRAY PUMP.—A few facts and figures for the Fruit Growing Community, by Aylmer Iron Works, Aylmer, Ont.

THE WESTERN FAIR INDUSTRIAL AND ART EXHIBITION, Prize List. London, Canada, 1897. September 9 to 18. Secretary, Mr. Thomas A. Browne, 44 Richmond Street, London.

CENTRAL-CANADA EXHIBITION PRIZE LIST, 1897, Ottawa, September 17th to 25th.

PRICES OF FRUIT IN ENGLAND look encouraging. Cherries were worth, on the 15th of July, from \$3 to \$3.75 per bushel, indeed Napoleons have sold as high as \$5 per half bushel; gooseberries, \$2 per half bushel; tomatoes from three to five pence a pound; black currants, \$1 per half bushel; choice grapes, 50c. to 80c. per pound.

The Spramotor is known by the users thereof.



The most noted and progressive fruit growers in Canada are using the **SPRAMOTOR**. It is the best that money can produce, and is sold at the lowest price that can be afforded. It has been placed **FIRST** wherever exhibited and is the **WINNER** of the Government Spraying Contest (see Canadian Horticulturist of May 1896). Outfits have been bought by the Secretary, L. Woolverton, A. H. Pettit, Superintendent, and M. Pettit, one of the Judges of the Contest.

Grimsby, Ont., July 5th, 1897.

MR. W. H. HEARD,

"Spramotor Co." London, Ont.

Dear Sir,—I have to thank you for the copy of your excellent catalogue of the "Spramotor" pump. It is not only an artistic production but contains a large amount of valuable and reliable information for fruit growers. It is quite convenient to find in your Catalogue a detailed price list of the different parts of the pump, so that any one desiring to have a part renewed can see at once what will be the cost of the same.

I have used your pump in my orchard this season with great satisfaction. It works easy and with the triple nozzle does rapid work with a very fine spray.

Yours truly,

L. WOOLVERTON.

WENTWORTH EXPERIMENTAL STATION.

Spramotor Co., London, Ont.

Winona, Ont., April 30th, 1897.

Dear Sirs,—Will you please send me one of your Spramotor Pumps, arranged for two lines of hose, Extension Rods, Spramotor Nozzles and all accessories that are needed for spraying both large and small trees. I have several pumps and the use of others offered free of charge, to use at my Experimental Station, but I have greater confidence in the Spramotor than any other I have seen in use.

Yours very truly, M. PETTIT.

Certificate of Official Award.

This is to certify that at the Contest of Spraying Apparatus held at Grimsby, on April 2nd and 3rd, 1896, under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario in which there were eleven contestants, the Spramotor made by the Spramotor Co. of London, Ont., was awarded first place.

Send for Prices, Agents Wanted

A. L. Hunt
M. Pettit Judges.

SPRAMOTOR CO., 357 Richmond Street, LONDON, ONT.

PICKFORD & BLACK'S West India Steamship Lines.

CARRYING THE CANADIAN MAILS.

DEMARARA SERVICE.

Calling at Bermuda, St. Croix, St. Kitts, Antigua, Dominica, Martiniqua, St. Lucia, Barbadoes and Trinidad.

	Sailing from St. John.	Sailing from Halifax.	Sailing from Demarara
Duart Castle.....	July 8	July 15	August 7
Taymouth Castle.....	Aug. 5	Aug. 12	Sept. 4
Duart Castle.....	Sept 2	Sept. 9	Oct. 2

For further particulars apply to

SCHOFIELD & Co., Ltd., St. John, N.B.
PICKFORD & BLACK, Halifax, N.S.
N. WEATHERSTON, Toronto, or

ROBERT REFORD & CO.

MONTREAL, QUE.

Vipond, Peterson & Co.

Wholesale Fruit and Commission Merchants

**Importers and Exporters Foreign
and Domestic Fruits. * * * * ***

273-275 Commissioners Street, and 1 St. Nicholas Street

MONTREAL, QUE.

Special attention given to consignments of small fruits, etc. Daily sales and prompt remittances guaranteed. If any information wanted about our market, wire or write us and you will receive as reliable information as we can furnish.

REFERENCES:

Molsons Bank, Montreal, The Bradstreet and Dun Commercial Agencies.

Wind Engines

Power and Pumping.



If you require power of any kind, buy a

Canadian Steel Airmotor

Which is the leading Windmill of Canada.

For Farm, Dairy, Irrigation, Etc.

Painted or Galvanized.

Water Supply Material a Specialty.

Pumps, Tanks,

Steel Towers, Etc.

ONTARIO WIND ENGINE & PUMP Co., LTD.,

359 Spadina Ave. Toronto.

Customers

tell us it pays to buy HULL'S Trees, Roses, Ornamentals and Small Fruit Plants. Try it for Fall Planting. Our Stock never looked better. NO SCALES on Our Stock. BUY DIRECT. You will come again. Send for prices to

A. G. HULL & SON,

CENTRAL NURSERIES,

St. Catharines, Ont.

We do not Employ Agents.



Mexicans are not very fond of Spaniards, and jokes are constantly cropping up in Mexico illustrative of the arrogance of the Spanish character. One now current in Mexico runs as follows: A Spaniard arrived at Vera Cruz and stepped ashore just as an earthquake occurred. Putting on a benign smile, he said: "Tremble not, Earth, I am not going to harm you."

DR. CARSON'S STOMACH BITTERS

The Great Stomach and Liver Cure.

Ask or write Malcolm McBean, Esq., 32 Queen St. West, Toronto, what it has done for him. He will tell you it is the only medicine sold that does all that it claims to do; that it cures Dyspepsia and all stomach and liver troubles. After three bottles he was well for the first time in years.

50 cents a Bottle.

All Druggists.

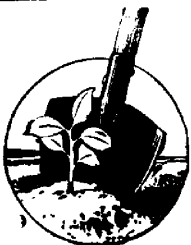
Books for Fruit Growers.

BAILEY—Annals of Horticulture.....	\$1 00
Field Notes on Apple Culture.....	75
The Nursery Book.....	1 25
The Survival of the Unlike.....	2 00
The Forcing Book.....	1 00
CANADIAN HORTICULTURIST—Vol. I, II, III or IV..... each	80
Vol. VII, VIII or XI ".....	1 00
Vol. XIII, XV or XVI ".....	1 25
CROZIER—How to Grow Cauliflowers.....	1 50
GREEN—Vegetable Gardening.....	1 25
GREINER—How to Make the Garden Pay New Onion Culture.....	2 00 50
MITCHELL—Tomato Culture.....	15
SAUNDERS—Insects Injurious to Fruits	2 00
THOMAS—American Fruit Culturist (new edition).....	2 50
WEED—Insects and Insecticides.....	1 25
Fungi and Fungicides.....	1 25

Orders accompanied by the Cash may be sent to Office of CANADIAN HORTICULTURIST.

International Horticultural Exhibition IN HAMBURG, 1897, MAY—OCTOBER.

Consignments for the Permanent Exhibition received at any time. Advice of consignments for the Special Exhibition to be sent two weeks before the consignment.



CANADA SHIPPING COMPANY
Beaver Line Steamships.

SAILING WEEKLY BETWEEN
Montreal and Liverpool,

Comprising the following first-class Clyde built, full powered iron steamships:

FROM LIVERPOOL.	STEAMERS.	FROM MONTREAL.
Sat. July 17	LAKE ONTARIO.....	Wed. Aug. 1
" " 24	LAKE SUPERIOR.....	" " 11
" Aug. 7	LAKE WINNIPEG.....	" " 25
" " 14	LAKE HURON.....	" Sept. 1
" " 21	LAKE ONTARIO.....	" " 8
" " 28	LAKE SUPERIOR.....	" " 15
" Sept. 11	LAKE WINNIPEG.....	" " 29
" " 18	LAKE HURON.....	" Oct. 6
" " 25	LAKE ONTARIO.....	" " 13
" Oct. 2	LAKE SUPERIOR.....	" " 20
" " 16	LAKE WINNIPEG.....	" Nov. 3
" " 23	LAKE HURON.....	" " 10
" " 30	LAKE ONTARIO.....	" " 17
Fri. Nov. 5	LAKE SUPERIOR.....	Sat. " 20

The above vessels are of the highest class, and have been built expressly for the **Canadian trade**, and possess most approved facilities for carrying all kinds of perishable cargo—apples, butter and cheese. Perfect ventilation is secured by the use of "Utley's Side Ventilators" and "Blackmann's Exhaust Fan and Air Propeller," which ensures a constant current of fresh air below deck. Have superior accommodation for passengers. **Through Bills of Lading** granted from any railroad point in Canada or Western States to any point in Great Britain, Ireland or Europe at lowest through rates. Special attention given to the handling of all perishable cargo.

For further particulars apply to **D. W. CAMPBELL**, General Manager, 18 Hospital St., Montreal; or to **D. & C. MACIVER**, 22 Water St., Liverpool.

New Raspberries

Smith's Giant, Columbia, Lotta, Kansas and Louden can all be purchased much cheaper than from agents, and warranted genuine, by sending to the Dominion Nurseries. Also other trees and plants. Send for Catalogue to

A. M. SMITH,
 Dominion Nurseries,
 St. CATHARINES, ONT.

DIRECTORY OF
CANADIAN AND AMERICAN
Seedsmen and Nurserymen

Name, address, and specialty, inserted for 10c. per month, or \$1.00 per year; free to advertisers.

- A. G. HULL & SON, St. Catharines.
- A. M. SMITH, St. Catharines.
- WEBSTER BROS., Florists, Hamilton, Ont.

ALLAN LINE
 Royal Mail Steamships.

Liverpool, Quebec and Montreal
 Royal Mail Service,
CALLING AT LONDONDERRY.

Steamers Sail Every Saturday.

The Saloons and Staterooms are in the central part where least motion is felt. Electricity is used for lighting the ships throughout, the lights being at the command of the passengers at any hour of the night. Music Rooms and Smoking Room on the promenade deck. The Soloons and Staterooms are heated by steam.

RATES OF PASSAGE.—Cabin: \$52.50 and upwards. A reduction is made on Round Trip Tickets except on the lowest rate.

Second Cabin.—To Liverpool, London or Londonderry, \$34 and \$36.25.

Steerage.—To Liverpool, London, Glasgow, Belfast or Londonderry, including a plentiful supply of provisions, cooked and served, and every requisite for the voyage..... \$22.50 and \$23.50

LONDON AND MONTREAL SERVICE.

Steamers sail between these two ports direct carrying live stock and all classes of fine cargo. Refrigerators for butter cheese and other produce requiring chilled space.

GLASGOW AND MONTREAL SERVICE.

From Montreal to Glasgow every Tuesday. No passengers carried by this service eastbound.

Similar accommodation to London service for every class of farm product.

For further particulars apply to

H. & A. ALLAN,
 25 COMMON STREET, - - - MONTREAL



50 YEARS' EXPERIENCE.

TRADE MARKS,
 DESIGNS,
 COPYRIGHTS &c.

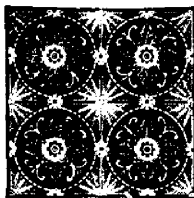
Anyone sending a sketch and description may quickly ascertain, free, whether an invention is probably patentable. Communications strictly confidential. Oldest agency for securing patents in America. We have a Washington office. Patents taken through Munn & Co. receive special notice in the

SCIENTIFIC AMERICAN,

beautifully illustrated, largest circulation of any scientific journal, weekly, terms \$3.00 a year; \$1.50 six months. Specimen copies and **HAND BOOK ON PATENTS** sent free. Address

MUNN & CO.,
 361 Broadway, New York.

Metallic Ceiling . . .



**DURABLE,
 ORNAMENTAL,
 INEXPENSIVE.**

Send for
 Catalogue.

Metallic Roofing Co., Limited
 1230 KING ST. W., TORONTO.

COMMISSION MERCHANTS.

WHITE & CO.

COMMISSION MERCHANTS.

70 Colborne St., Toronto, Importers of Fruits.

Consignments solicited:—Facilities for handling fruit and produce unexcelled, rubber stamps and labels cheerfully supplied on application. References Canadian Bank of Commerce, market branch Toronto; Bank of Commerce, St. Catharines; Bank of Hamilton, Grimsby; Ira Van Duzer, Winona; W. H. Bunting, St. Catharines; A. C. Howe, Niagara; Geo. Law, Niagara Falls South; Hugh H. Anderson, Grimsby.

McWILLIAM & EVERIST,

General

COMMISSION MERCHANTS.

Consignments of Fruit and Produce Solicited.
Ample Storage.

APPLES A SPECIALTY.

TEL. 645 25 & 27 Church St.
TORONTO ONT.

W. H. Smith

The Old Reliable

Commission Merchant

Solicits your consignments of all kinds of fruit. Unequalled facilities for handling all lines of fruit by the car.

References by permission: Dominion Bank, Toronto, and Imperial Bank of Canada, St. Catharines, Ont. Cable Address: "WALSMITH," Toronto. Established 1874. Phone. 868.

186 AND 188 KING ST. EAST
TORONTO, CAN.

VANCE & CO.

TORONTO, ONT.

Wholesale Fruits
and Commission.
Merchants

Ref., Bank of Hamilton. Telephone 2266.

Est. 1888.

PHONE 174

CHAS. KIMPTON

63 Colborne St., Toronto, Ont.

WHOLESALE FRUIT and COMMISSION
MERCHANT

Prompt daily reports of sales and weekly remittances. Stamps and cards furnished on application. Correspondence solicited. References, Bank of Commerce and my shippers.

Established 1876.

Long Distance
Telephone Office 158 D.
Stores 158 A.

CHAS. RICHARDSON

Fruit & Produce Commission Merchant

WEST MARKET AND MICHIGAN STREETS,
BUFFALO, N.Y.

CANADIAN FRUIT A SPECIALTY.

References, City Bank, Buffalo, Maine Bank, any Responsible Commercial Agency. Shipper paid by check on Bank of Hamilton, Grimsby.

JOHN T. McBRIDE, Importer and Exporter of Fruit,

307 Board of Trade, MONTREAL.

I have had twenty-one years successful experience in the wholesale commission business in this City. For twelve years in company with Vipond, McBride & Co. For eight years in company with McBride, Harris & Co. This is my second year without any partner.

Your valued consignments will have my best attention with prompt account sales and proceeds.

DIRECTORY OF

Canadian and American Fruit Commission Houses.

Names and Addresses are charged 25 cents for one insertion, or \$2.50 for one year.
Advertisers free.

White & Co., 70 Colborne St., Toronto, Ont.

Vance & Co., Toronto, Ont.

Chas. Kimpton, 63 Colborne St., Toronto, Ont.

McWilliam & Everist, 26 Church St., Toronto, Ont.

W. H. Smith, 186 and 188 King St. E., Toronto, Ont.

John T. McBride, 307 Board of Trade, Montreal, Que.

Chas. Richardson, West Market Street, Buffalo, N.Y., U.S.A.

Vipond, Peterson & Co., Montreal, Que.

EDINBURGH, SCOTLAND

Wood, Ormerod & Co.

FRUIT MERCHANTS

AND

COMMISSION SALESMEN.

Solicit consignments of choice apples, via Glasgow or Leith. Personal attention given to each shipment, choice produce a speciality.

REFERENCE—The National Bank of Scotland, High St. Edinburgh.

Telegraphic Address—Wood, Edinburgh.

"Opporchunities," said Uncle Eben, "is pretty sho' ter come ter ebry man. But it's a mighty good idee, jes' de same, foh him ter hustle roun' an' send out a few invitations."