

LEADING ARTICLES { COOPERATION BY FRUIT GROWERS
HORTICULTURAL SOCIETIES AND THE SCHOOL CHILDREN

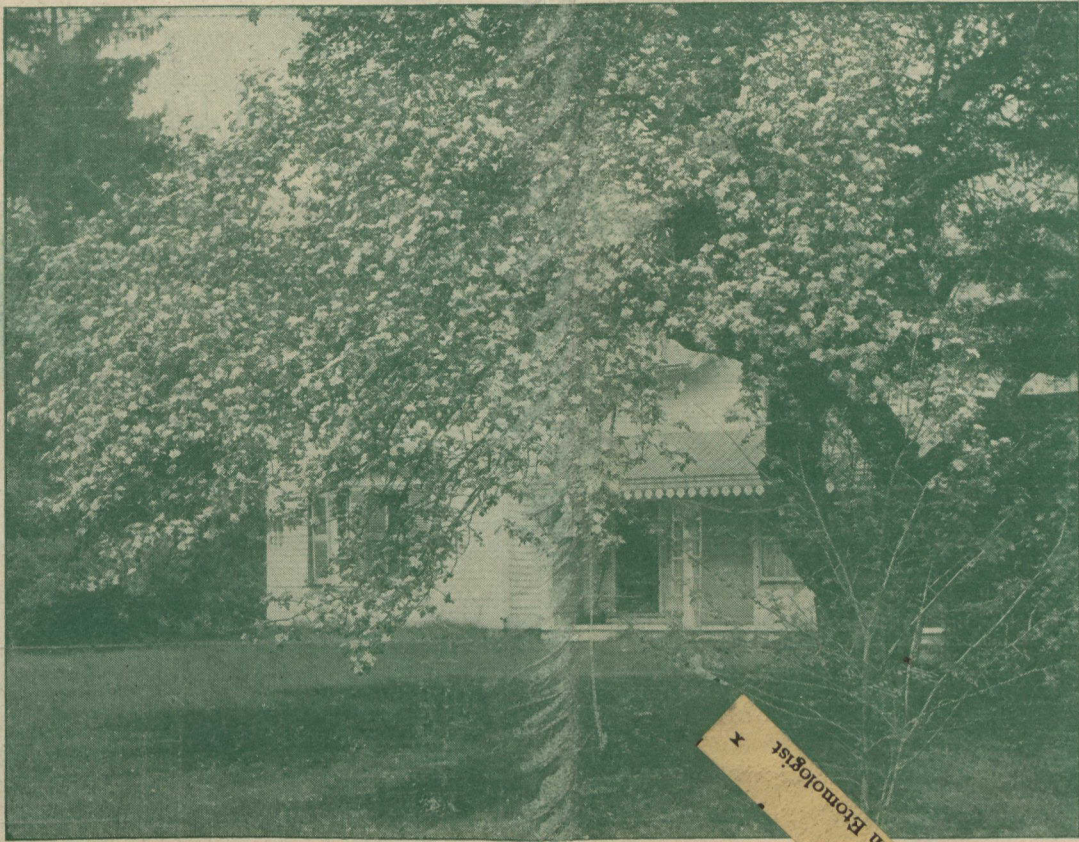
The Canadian Horticulturist

MAY, 1906

Volume 29, No. 5

TORONTO

Price \$1.00 Per Year



May Promise of Good Things to Come

What is so rare as a day in May,
When blossoms fill the air?
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Was ever sky so blue?
Were ever notes from feathered throats
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Or love or life half so dear
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—T. A. Edmund.

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The Canadian Horticulturist

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No. 5

Fruit Should be Consigned Direct to Retailers

NOW that Canadian fruit growers are beginning to cooperate, more attention is being given to the marketing end of the fruit industry than ever before. The result is that growers are finding that there is a host of middlemen, both on this and on the other side of the Atlantic, who have been absorbing the greater part of the price paid for the fruit by the consumers. The returns that ultimately reach the growers are, after all, astonishingly small when compared with the price for which the fruit is finally sold in Great Britain.

Growers should receive cash for their fruit before it leaves their hands. Investigation shows that the most foolish practice is the shipment of fruit to dealers in Great Britain to be sold on commission. While, probably, the great majority of the dealers are honest, many are not, and these men rob the growers right and left. Cases of this kind have come to light nearer home, at Winnipeg, for instance, and even in Toronto, the good.

The various cooperative fruit growers' associations in Ontario have had no difficulty selling their fruit for cash f.o.b. Most of them could have sold several times the amount of apples they did had they had them. "One buyer offered to purchase 50,000 barrels of apples from us last year," said Mr. D. Johnson, of the Forest Association, to THE HORTICULTURIST, recently, "and we could have sold 100,000 barrels had we had them." Remarks to the same effect have been made to THE HORTICULTURIST by officers of most of the other cooperative associations in the province. This shows that when growers cooperate and are able to offer fruit, properly graded, in considerable quantities, they will be able to sell it readily for cash and at satisfactory prices.

The cooperative associations should now carry their work a step farther by eliminating the middlemen in Great Britain and selling direct to the retailers or groups of retailers. Not only are Canadian growers beginning to realize the need for action in this direction, but the British retailers are awaking to the fact that they can increase their profits greatly by dealing direct with the Canadian producers. Evidence of this is afforded by several letters that are in

the possession of THE HORTICULTURIST that were sent to Mr. A. E. Sherrington, of Walkerton, the well-known manager of the Walkerton Fruit Growers' Association, by leading retailers in different cities in Great Britain.

One of these letters, from a fruiterer and florist in Liverpool, shows clearly how the British retailers are waking up and beginning to endeavor to order their fruit direct from the Canadian growers. This letter reads in part as follows:—

"I think it would be much better if the grower could send his apples direct to the retail man, as I have sometimes paid 12 to 60 cents a barrel profit to the wholesale merchants in addition to the wholesale charges that they had to pay to the auctioneer. You will see, there-

The Best

Without being asked, I wish to state that I think the April number of THE CANADIAN HORTICULTURIST is the best edition of any horticultural paper that has ever been published in the Dominion of Canada.

G. C. CREELMAN,
Pres. Ont. Agri. Coll., Guelph.

fore, that there is a lot of profit made out of the fruit between the time it leaves the grower and the time it reaches the retailer. I ordered only 40 boxes from you but I am using about 30 barrels a week. I have bought this morning XXX Greenings from Brighton, Ont., for which I had to pay four dollars each. Barrels of Baldwins also cost four dollars, while some barrels of Kings cost five dollars and fifty cents. How do these prices compare with those the Canadian growers probably received for this fruit? I feel sure that if I can get the apples direct so much cheaper, a big demand will be created for them and I shall be only too pleased to do business with you whenever you can get the right quality of stuff."

Another letter is from a firm in an inland city in England asking for 200 barrels of XXX Baldwins, subject to gov-

ernment inspection. A third letter was written by a firm in Leicester and reads as follows:—

"Will you please quote me for 25, 50, 100 and 200 barrels of apples f.o.b., and rate to Liverpool. I want to induce our local retail fruiterers' association to buy direct from the growers. I will place your reply before the committee as soon as I receive it."

These letters show what a splendid opening there is for our fruit growers to deal direct with the retailers in Great Britain, if they will only recognize their opportunity. In regard to the first letter, growers will realize that if the apples sold for four dollars a barrel to the retailers in Great Britain, the middlemen must have pocketed \$1.25 to \$1.50 on each barrel, as the prices paid the growers this year for XXX fruit ranged from \$1.25 to \$1.50 a barrel. If to this is added \$1.25 for railway, shipping and similar charges, and that is a reasonable allowance, there is left \$1.25 to \$1.50 a barrel. Most, if not all, of this could be saved were our growers to ship direct to the retailers.

UNSATISFACTORY FEATURES

Last fall Mr. Sherrington spent a number of weeks in Great Britain, during which period he made it a point to watch the manner in which Canadian fruit is handled and to talk with retailers in regard to direct shipments. His trip has convinced him that Canadian fruit growers lose large sums of money every year by having their fruit sold on commission. He is of the opinion, also, that were a representative of the growers to visit the retailers he could work up a demand sufficient to absorb all the XXX fruit packed in Ontario.

In a recent letter to THE CANADIAN HORTICULTURIST, Mr. Sherrington speaks plainly on a number of these points. After referring to the many benefits that would follow were our fruit growers to sell their fruit through local cooperative associations, Mr. Sherrington says:— "Last, but by no means least, the fruit should be sold f.o.b. at the packing house, for why, in the name of common sense, should fruit growers send their fruit to any man, or firm of men, to dispose of as he or they please? Are there any other products of the farm that are

marketed or treated in the same manner as the products of our orchards?

"What we need is more cooperation among Canadian growers and the retail merchants and the consumers in Europe. If the retail merchants of Europe were interviewed, a large trade could be worked up direct between the growers and the retailers and consumers. It is computed that Canadian apple growers are paying away unnecessarily, on the other side, in market dues, tolls, portage, cartage and cataloguing \$500,000 to \$750,000 yearly, and not only unnecessarily, but for the privilege of sending our goods to one or two centres only for distribution, to their disadvantage. The time is not far distant, however, when the growers will wake up to this fact, and, also, to the fact that there may be other and better methods of distribution all ready to their hand beside the auction channels of London and Liverpool.

"Who are the customers of the auctioneers in these cities? Why cannot we ship our goods to them direct? These are questions that growers everywhere in Canada, and in other countries too, are asking themselves. The selling of fruit by auction has a great many attendant evils where there are competing firms, unless one of them has the monopoly of

the article sold, which is possible sometimes, or the exclusive right to the attendance of buyers, which is never possible. The fruit auctioneer, like every other human being who has to work for his living, is naturally looking out for himself, first and last, and in his hurry to get rich he is not always the far-seeing and wise individual he might be. Sometimes he injures the very people he would protect, did he but stop to think for a moment. For instance, I am told the following is a common practice amongst certain fruit auctioneers. When one has got to sell 3,000 barrels of Canadian apples on a certain day, and notifies his clients of the fact by printed bill, and by notice on a large slate placed near his auction stand, a rival firm, who desire to lower their opponent's prices, also advertises a like quantity, although they may not have any to sell. In this way buyers are drawn away from the real sale who are given plausible excuses by the second firm when they find it has no apples to sell. In this way the price of the fruit is kept down and a man does not need to be told what this means to the grower. Such work as this leads to retaliation by the first firm and the injury to the trade is thus extended.

"The apple crop of Canada is fast assuming enormous proportions. Our

population is not increasing with sufficient rapidity to be able to consume the fruit, and consequently the British market must receive each year much increased quantities. The problem we have to face is how to market the fruit to the best advantage. There are signs that growers are becoming more keenly alive to their interests, and that they have a desire to get into more direct touch with the consumer and thus secure for themselves more economic distribution than the present wasteful auction systems of London and Liverpool. Cooperation on the part of the growers is the right key to the situation, and may be the beginning of a system of distribution similar to that adopted and found sound by the fruit growers of Southern California. It may be some little time before the Canadian growers arrive at this ideal stage, but it will come, and God speed the time when their representatives will take the place of the present London and Liverpool auction houses."

Is it not time our Canadian growers were taking action to remedy these matters? Readers of THE HORTICULTURIST are invited to forward their views for publication and to give the results of their experience in the shipping of fruit.

Cooperation in the Annapolis Valley*

James H. Tupper, Round Hill, N.S.

THE only way fruit can be handled satisfactorily is by cooperation. The cooperative movement is bound to result in great financial gain to orchardists.

The fruit industry naturally divides into two parts or sections: First, that of production, and second, that of marketing. It is one thing to grow fruit successfully, but it is another to market it successfully. Production has to do with planting the trees, caring for the orchard and picking the fruit; marketing has to do with preparing for the market, carriage to the market, and selling in the market. We can successfully deal with the former individually, but not so the latter.

Every farmer can attend to his own orchard, and with the information he can get from agricultural colleges, experimental farms, agricultural papers, model orchards and successful orchardists, he should be able to produce the best fruit at the least cost. Each man can cultivate, fertilize, prune and spray his orchard separately and in a certain sense independent of his neighbor, but he should cooperate with his brother farmers to obtain a uniform package, the best and cheapest transportation

service and the best method of disposing of his stock.

Cooperation among fruit growers should have three aims or objects—cooperation in transportation, in packing, and in selling. To cooperate in transportation the fruit would have to be collected from the growers, loaded on steamers and delivered at the point of shipment. Each operation would need to be done in the most systematic and business-like way. To do this would require organization, and to organize properly we should commence at the inside and build outward. If we are to cooperate successfully in Nova Scotia, it will be necessary to have the whole Annapolis Valley, or as much of it as possible, organized. It is better, for purposes of interior economy, that this organization should consist of a number of smaller societies working independently but under one general management, rather than to have one large association covering the whole district. The plan already followed is to form a branch society at each shipping point, or in each locality where it is thought best, and to elect officers consisting of a president, secretary and treasurer.

The duties of the secretary and the treasurer would be to record the min-

utes of the meetings and receive any monies for fees or collections that might be made. The duties of the president would be to look after the apples in that district, notify the farmers when to ship, order cars, attend to the loading and billing of the same, and perform duties similar to the middlemen or shippers of to-day. Delegates could be appointed from these branches to choose a manager. The presidents would form a directing committee to assist and advise the manager in the general direction of the business.

The duty of the manager would be to receive the apples at the point of shipment, take all necessary precautions against frost, look after loading and consigning, and attend to the business generally at his end of the line. He would be expected also to give the members all the information he could in respect to markets, crops and prices, to make the best sales possible, receive and hand the orders over to the presidents, and work entirely for the interests of the grower.

Each association would be incorporated and empowered to make rules and by-laws governing its members. The line of responsibility would run from the grower to the manager. The president would hold each member in his

*Read at the last annual convention of the Nova Scotia Fruit Growers' Association.



The Men who Guard the Reputation of Canadian Fruit

Here are shown all the fruit inspectors of the Dominion Department of Agriculture, from the Atlantic, in the person of Mr. G. H. Vroom, of Middleton, N.S. at the extreme left, to the Pacific in Mr. Maxwell Smith, of Vancouver, B.C., at the extreme right. This photograph was taken at the recent Dominion fruit conference at Ottawa, which was the first occasion on which all the inspectors met together. In the centre of the front row may be seen Mr. Alex. McNeill, chief of the fruit division. On his left is Mr. J. J. Philp, of Winnipeg, and on his right Mr. F. L. Dery, of Montreal, Que. Those in the back row, reading from left to right, and starting next to Mr. Vroom, are Messrs. E. H. Wartman and J. F. Scriver, both of Montreal; Mr. P. J. Carey, of Toronto, and Mr. A. Gifford, of Meaford, Ont. At the Dominion fruit conference these men were highly praised by the delegates from all the provinces for their splendid work and for the tact and judgment they have displayed.

district responsible for the number of barrels he agreed to ship. This would make the president responsible to the manager for all the apples in his district, and in turn the manager a responsible party for any company to do business with. By having a large number of barrels under his control he could make much better terms with the steamship and railway companies than the individual growers can.

There are two reasons for the exorbitant rate on apples: One is that the growers have to pay what the steamship companies demand because they are not in a position to do otherwise; the other is the companies have to charge a high rate so that they can give large rebates to agents to do work that the growers' agents should be doing. As long as the present system continues, as long as we remain inactive and unorganized, the high rates will prevail. We are apt to censure railway and steamship companies for their high charges, but we as growers are more to blame. We have it in our power to make conditions much more favorable to ourselves. It remains to be seen whether or not we will do it.

By shipping from Annapolis and Victoria Beach there would be a saving in railway charges. We can obtain an ocean rate from these ports of 48 cents on small cargoes from 7,000

to 10,000 barrels. The subsidy we should get would reduce this from five to eight cents. I do not think it too much to expect a 40 cent rate. The railway charges on this end should not average half what they do, or nine cents. The expenses for collecting the apples would be about four cents per barrel for president, two cents for manager, and five cents additional for unforeseen expenses, bringing the total cost up to 60 cents. This means a saving of 30 cents to the grower in shipping expenses. It does not seem much on one or two barrels, but when you have several hundred in one year, and several years in shipping, it counts up enormously.

The growers are ready for this movement. Cooperation seems to be in the air where every farmer can breathe it. The editor of an agricultural paper, when on a trip through the valley last summer, said: "I am glad you people down this way have got hold of cooperation." That doesn't half express the condition of things. It is cooperation that's got hold of us. We must expect to meet with discouragements, disappointments and opposition, but not failure. There are no difficulties or oppositions to be met with that cannot be overcome by a determined and united effort on the part of the fruit growers.

Cooperation in packing is not of first importance, because it would be necessary to have central packing houses, and have the fruit brought to these and packed by experts. This would entail considerable cash expenditure on the part of the grower, and if he had never seen the beneficial results of cooperation he would think long and seriously before doing it. The saving to be effected in the transportation is an incentive for union. After we have gained knowledge by experience, and have more plainly seen the need of uniform packing and packages, and, above all, have gained that confidence in one another that is so necessary for the success of any cooperative society, we will be willing to furnish the capital for such additional outlay as may be necessary.

The advantage of a good and uniform package can hardly be over-estimated. It would inspire confidence in the buyer as well as the seller. We could guarantee our entire output, and when buyers knew the brand could be depended on, they would pay 25 to 50 cents more per barrel than they otherwise would. In this way the grower would be more than repaid for his outlay. Much can be said in favor of uniform packages, whether of box or barrel. It seems to be the only way that we can gain the best reputation and

have the consumer hold our fruit in the high esteem in which it should be held. One bad packer spoils the reputation of 10 good ones. We should learn a lesson from our neighbors in California, British Columbia, Ontario and other places who have adopted this system, and are working it successfully, often disposing of their entire stock before it leaves the warehouse.

As for cooperation in selling or marketing, almost any change from the present conditions would be desirable. No matter what state the market is in when our fruit arrives, in most cases a sale has to be effected. It is ruinous to the grower to have his fruit, when landed, sometimes in bad condition, forced on a market that is already overcrowded. The net returns occasionally are barely sufficient to pay for the barrel. One remedy for this

would be to have an agent on the other side who could interview some of the larger buyers and sell direct to them, thus saving much of the expense connected with an auction sale. It would be an advantage to the grower to carry the sale of his fruit as near to the consumer as possible, as the oftener it changes hands the worse it is for both. It means one of two things: the grower receives less, or the consumer pays more. The nearer the consumer and producer can be brought together the better for both, and with our central packing houses and reputation established for honest packing, we would, in a short time, be able to sell our whole stock before it left the warehouse.

It is an open question whether or not it would be better to take our fruit to the buyer or bring the buyer to our fruit. Our first efforts should be ex-

pected in getting in touch with some of the larger buyers who handle 1,000 to 5,000 barrels weekly, and who are as anxious to get in touch with us as we are with them. It would be greatly to their advantage to deal with anyone who could supply them with large quantities of well-packed fruit throughout the season. It would be much better for the growers than sending steamer load after steamer load without any system or regularity, and having to run the risk of good or bad returns.

We must remember that our fruit area is rapidly widening. In a few years, even in the Annapolis Valley, we will be producing double what we do now. It behooves us as growers to look well to our method of selling. By a better and more systematic arrangement we can save enough, per barrel to turn the scale between profit and loss in production.

Successful Cooperation at Forest

THE Forest Fruit Growers' Association in Ontario handled 4,700 barrels of apples and 50 boxes of fruit last fall, all of which were sold to a buyer from England, who represented a number of small firms. This buyer paid cash for the fruit before it was loaded on the cars. "We could have sold our fruit to former customers in the Northwest," said Mr. D. Johnson, the president of the association, to THE HORTICULTURIST, "but this buyer agreed to purchase our entire output and, therefore, we decided to sell to him. He remained at the packing house, where he examined the fruit as it was packed, and thus he knew what he was getting. Several other firms were anxious to purchase our output, one buyer alone offering to handle 50,000 barrels. We could have sold 100,000 barrels of apples had we had them.

"Our membership was not as large as the previous year, owing to the fact that early in the season we adopted a by-law compelling all our members to spray their fruit four times. While we lost a number of members, the result of this by-law was that every member had a fine crop of fruit. The fruit was sprayed four times, twice before and twice after the blossoms fell. Each of our members purchased their own sprayers, most of them obtaining hand sprayers at a cost of about \$15 each. We lost about 20 members through their refusing to spray their crops, and the result was that these men had almost no fruit, as scab and fungous diseases reduced their crops.

"People have no idea of the fungous diseases we have to combat in our section, and the care that is required to fight them successfully."

On being asked what capital the Forest Association has, Mr. Johnson replied: "Our only capital is \$15, subscribed at the rate of 25 cents each by our members. The bank advances us all the money we require on the note of the directors of the association. The directors do not ask for any security for the risk they run. As soon as the first car is packed and sold, we deduct from the proceeds such money as we may need. This year the bank did not ask for a note. Every week we strike a rate and the members of the association are charged their share of the expenses in proportion to the amount of fruit handled for them by the association. Members are paid weekly according to grade of fruit packed. Our fruit has given the buyers every satisfaction as it has been well packed, the work having been done by Mr. F. Steele, who has had considerable experience as a packer. Before we secured his services he used to work for the buyers."

"Have the buyers made any attempt to break up your association?" was asked by THE HORTICULTURIST. "The local buyers objected at first, and tried to coax out some of our members," said Mr. Johnson, "but the big buyers are in favor of what we are doing, and are anxious to purchase our full outfit. Our fruit is packed in a building used during the winter as a skating rink, for which we pay \$15 rent. This building, which we use during about only three months in the year, is some 40 rods from the railway. Our apples are moved from the building to the railroad on drays at an expense of two cents a barrel. Last year we handled about 6,000 barrels."

"Crops outside those of the members of the association were almost a complete failure last year. Buyers would not look at other people's crops that were not sprayed. The orchards of the members of our association were almost an oasis in the general ruin. Our good crops last fall will help us when we come to sell our fruit this year. We expect a number of the growers who left us last season will join the association again during 1906. We do not accept members unless we are satisfied that they will take proper care of their orchards, and that they are likely to send us good fruit. When an application is received for membership, it is considered by the directors before being accepted. Any of our growers who sell their crops outside of the association can be fined 50 cents a barrel for every barrel so sold. Some of our growers were offered 25 cents a barrel more for their apples than they were likely to get through the association, but none of them sold. Our agreement with the growers could be enforced, as it is a signed statement.

"A number of growers came to me during the season," continued Mr. Johnson, "and wanted to join our association. I asked them if they had sprayed, and on their replying that they had not, I told them that we could not accept their fruit. Some of them pleaded that an exception should be made in their case, but all were refused.

"Those growers outside of our association who happened to have good fruit were allowed to sell it to the association. We bought this at the rate of \$1.60 per barrel for firsts, and \$1.35 for seconds. We sold it at a profit of 40 to 50 cents per barrel on firsts, and 25



The Rink that is the Headquarters of The Forest Fruit Growers' Association

The officers of the Forest Fruit Growers' Association have not incurred the expense of putting up a special building for the handling of their fruit, but use the Forest curling rink, which has answered their purposes. The building is 150 x 40 feet. Among the people shown in the photograph is Mr. D. Johnson, the president of the Association, and Mr. Idiens, the English buyer, who last year purchased all the fruit packed by the Association, paying cash. This shows that buyers will visit the growers direct when they know that they can obtain sufficiently large quantities of fruit properly packed.

cents a barrel on seconds. We bought about 100 barrels of fruit in this way, the profit on which was turned over to the members of the association."

When asked how the association obtains its supplies, Mr. Johnson replied: "We make our own barrels. This year 1,500 to 2,000 were made in our orchard for our own apples, the rest being made by a Forest cooper. The supplies are bought from the manufacturers, and barrels having eight hoops cost us 27½ cents each. The ruling price in our section was 32 cents. We have two coopers who are employed during the apple season."

The following letter from Mr. Idiens of the firm that handled the fruit shows how it arrived and how well satisfied the firm was and promises well for further orders.

"I was at Evesham, our head office, recently and found that the firm are very well pleased with the pack as well as with the fruit. They are more than satisfied and say that every credit possible is due to the association for such good, honest packing. As you know, it is hard to work up a brand here, as it takes time for people to catch on. Now when your fruit is nearly all sold people are wiring and telephoning

name on the barrel. The commission merchant sells each brand according to its merit and remits to the grower accordingly.

This company, although known to the trade by no particular name, has done good work, and as they have shipped several cars for years to their own brokers, their fruit has become known and they have realized high prices. Mr. Hodgson has but little faith in anyone making a success of fruit growing unless he sprays thoroughly, and he has done much to encourage his neighbors to grow a better class of fruit as well as to pack and ship their own produce."

from all parts for it. It will be easy for us to sell it another year.'

INDIVIDUAL SHIPPING.

"While the great bulk of the fruit grown in the vicinity of Forest is handled by our association, yet it would be wrong to ignore the good work done by Mr. H. A. Hodgson, a progressive and energetic fruit grower, who, with about half a dozen growers, has been shipping the fruit grown by them for several years to Dundee and Glasgow. Mr. Hodgson, who is a good packer, oversees the work of making up car lots, and consigns the fruit through in his own name, although each grower packs his own fruit, putting his own

Fire Blight on Pear Trees

What causes fire blight in pears? I lost three trees last year, and three the year before. Last year half of each tree dried up.—F. F. Reeves, Humber Bay, Ont.

PROF. F. C. SEARS, Truro, N.S.: This is one of the few diseases of plants that is definitely known to be caused by bacteria. Experiments show there is little, if any, benefit from spraying. The bacteria winter in old diseased portions of the tree, mostly about the tips of twigs and branches, but to a considerable extent in patches of diseased tissue on the limbs and even on the trunk. When growth of the tree starts in the spring the bacteria renew their active growth and extend the boundaries of the diseased parts, being carried by insects and birds to new places. The

new points of attack are especially about the flowers and the tips of growing shoots. To these points they are carried by honey-eating insects, especially bees, and from them spread rapidly down the branch, killing the leaves and causing the familiar brown, burned appearance that gives the disease its name. Towards autumn the rapidity of the spread of the disease gradually decreases till the bacteria enter their quiescent state for the winter. The only remedy that has been found at all satisfactory is the knife, and it must be used freely but carefully. The trees should be gone over very carefully in the autumn and again in early spring and every vestige of diseased tissue cut out, along with a great deal of wood that appears per-

fectly healthy. It is a good rule in removing a diseased branch to cut a foot below where the disease shows in order to be perfectly sure that all germs are cut away. All the diseased trimmings should be promptly burned.

It is also necessary to frequently sterilize the knife and saw with which the operator is working. Otherwise, instead of checking the disease, it may actually spread it, as the tools will carry the germs and each cut will act as an inoculation.

For the purpose of sterilizing tools, Waite recommends the following: "First, mercuric chloride, or corrosive sublimate, one part to 1,000 parts water; second, five per cent. carbolic acid solution; third, a solution of chloride of

lime. The first may be prepared by purchasing tablets of a definite amount at a drug store. These tablets can be kept in a small bottle and a pint or a quart bottle filled with water and one of the tablets added. Upon concluding work the bottle should be emptied to avoid the danger of poisoning children and unsuspecting persons. Carbolic acid solutions may be prepared by simply adding a teaspoonful or more to a bottle of water and shaking it up. The saturated solution that contains about five per cent. of carbolic acid is the proper strength to use. A solution of chloride of lime will answer about the same purpose and is made by adding about 20 parts of water to one part of commercial chloride of lime, shaking it up and pouring off the clear liquid. This is only for use when fresh. Any of these solutions can be carried by the operator, and a strip of cloth a yard or so in length

should be fastened to the clothing, leaving one end free. When cutting into active blight the end of the cloth may be kept saturated with the disinfectant and the knife sterilized by wiping before using it on sound wood."

WHAT PROF. EDWARDS SAYS

Prof. S. F. Edwards, Guelph: Fire blight or twig blight is a bacterial disease affecting not only pear trees, but also the apple, quince, crab, mountain ash, service berry, and several species of hawthorn. It is easily recognized at first sight by the brown and subsequent blackened condition of the young leaf tufts and flower clusters, and the blackened, shrivelled bark of the young twigs, as though a fire had passed over them. The disease passes rapidly to the larger branches and limbs and finally to the trunk, sometimes affecting the whole tree within ten days. The spread of the

disease is more rapid in warm, moist weather, and on trees subjected to high cultivation and heavy pruning that tend toward the growth of tender succulent shoots which are easily infected by the germ which causes the disease.

The only treatment is the judicious and continuous use of the saw and the pruning knife. All affected twigs and branches should be cut out, the cut to be made at least 10 inches below the discolored portion, and these diseased prunings should be burned. It is essential not only to watch the pears for appearance of the disease, but the apple, quince, and related species as well, as the bacteria may be carried from tree to tree by bees and other insects. Constant care and watchfulness are essential, and the fruit grower whose trees are affected should lose no time and spare no pains in instituting vigorous measures for the eradication of the disease.

Hardy Wild Flowers for the Garden

A. Alexander, Hamilton, Ont.

WE are now at the time of the year when flower lovers gravitate to the woods, to visit the haunts of the hepatica, the blood-root, the spring beauty, the trillium, and others. How delightful is this annual pilgrimage to look on these early "earth-born blossoms," in the midst of their native surroundings, and see the annual miracle of awakening plant life! With what loving tenderness and admiration we gaze on them when found! How carefully we pick a few of these earliest of the wonderful train which will

stretch through the coming months, so that those at home may also see and admire! The desire to have these beauties around our homes is therefore natural, and in the case of many of them, it is quite feasible and will yield genuine delight for years.

The right time to transfer these wildlings from their native woods to the garden is not when they are in bloom, but when their year's growth is perfected, which, in the case of those named in this article, will be near the end of July. Of course, care will be taken by all in-

telligent lovers of wild flowers, not to be reckless in digging up so many as to practically exterminate them in any one locality, where they have been known and looked for, by old and young, for generations.

Nevertheless, all who have room in their gardens should, by all means, try a few of these harbingers of spring and early summer, for in our homes there is always one or more not able to go to the woods to see them.

Most of these beauties delight in a soil with plenty of rotted leaves or humus in it, and nearly all of them like a partial shade.

The accompanying illustrations are from photographs of plants growing in my garden last spring and summer.

HEPATICA TRILOBA

The first of these that I would recommend is the well-known hepatica, *Hepatica triloba*, or the *Anemone Hepatica* of some botanists. This, I consider, is the earliest flower, after the skunk cabbage, to turn its face heavenward. This plant is found in the woods of Canada throughout a very wide area. Among dead leaves and undergrowth, of the past year, it forms dense patches with its own rusty looking leaves which have remained over the winter, I suppose as a protection to the young and bold flower buds. The new leaves are not formed until later; in fact, not until the flowers are all gone. Hence the wisdom of not moving the plant until this leaf growth is completed. Its flowers are faintly fragrant and are blue, pink, white or purple in color.

Although, necessarily, the hepaticas must lose some of their charm when taken away from their woodland retreat



Mr. Alexander's Specimens of *Hepatica triloba*



Trillium Grandiflorum in Mr. Alexander's Garden

they are still excellent in cultivation, and their foliage is attractive at all times. It is best to plant them in groups of from 6 to 10 plants if possible, where they will not be disturbed.

SANGUINARIA CANADENSIS

The next plant I would commend, as deserving a place in the garden, is the blood-root, *Sanguinaria Canadensis*. This flower has the purest white color of any plant known. Each flower comes out of the cold, moist earth wrapped securely in its own pale green leaf, and this leaf is not unrolled until the flower is strong enough to bear the light and winds. The flower falls apart so easily that when in full bloom it will scarcely bear transportation, but with a touch the stem stands naked—a bare, gold-tipped sceptre, amid drifts of snow. It is one of the most shy of wild plants, easily banished from its locality by any invasion, but it takes to the garden with the most perfect readiness, doubles its size, blossoms earlier, repudiates its love of water

and flaunts its great leaves in its unnatural confinement. I have two colonies of this flower in my garden, planted about 15 years ago, and it has increased both by ordinary increase of the roots, and by seed, and in a dry and sandy soil, the very opposite of that in which it seems to thrive best in a wild state. It seems throughout a contradiction, the purest white flower, from a root so bloody red, that the Indians use it for staining their baskets; and it was used in old times for staining their faces.

CLAYTONIA VIRGINICA

The wild flower I would next speak of is the spring beauty, *Claytonia Virginica*. This plant has a tenderness and delicacy of expression that is very charming. It is very delicate, and as soon as picked it fades. I have had it blooming in a shady nook of a rockery for years. It rises from the ground by a stem like a thread, connected with a tuber about the size of a pea several inches below the surface. The color of the flower is a pale pink with deeper colored veins. It is the Indian *Miskodeed*, and was said to have been left behind when mighty Peboan, the Winter, was melted by the breath of Spring. Unlike most of the early wild flowers it bears its blossoms in clusters, and opens in succession each white and pink-veined bell. It grows in moist places, and prolongs its career from the middle of April to the end of May.

TRILLIUM GRANDIFLORUM

The white trillium, sometimes called the wood lily, is so well known that little need be said about it. Too much cannot, however, be said about its peculiar

adaptability to the perennial flower border. If the tubers are dug up in late summer, or early fall, and planted in soil as recommended above, a good crop of flowers will delight you. The next spring, and year after year, they will increase in number and size. A single tuber planted many years ago near a cedar hedge has so increased that last year there was a dense cluster of 10 flowers. All these early wild flowers are most satisfactory when several are planted in a group. In a circular space of, say, two feet in diameter, 10 or 12 tubers might be planted. In a few years these would appear as shown in the illustration, which is reproduced from one of several groups in the garden.

ANEMONE THALICTROIDES

Another very sweet little flower is the Rue anemone, which is found growing around the roots of large trees in open woods, and often in company with the wood anemone or wind flower, *Anemone nemorosa*. Unlike its companion which bears only one flower, the Rue Anemone has a cluster of flowers at the top of a slender stem, with a whorl of leaves under them like the leaves of meadow rue. Its root is a cluster of small tubers, and looks like a very miniature dahlia root.

ANEMONE PENNSYLVANICA

The Pennsylvanian anemone is a very common one, and is found growing at the borders of woods, and on the sides of railway embankments and ditches. It is usually found in patches, and forms a very showy addition to the hardy garden. It spreads by underground runners, and if allowed will soon monopolize the surrounding area. It continues to bloom for two or three weeks, and is a very striking object. The cut represents only a section of the mass, all from a single root planted a few years ago. It requires no looking after except to keep it within due bounds.

All the above, if planted as indicated, will be a source of pleasure for years to those interested, and will be admired by all flower lovers. It is not difficult to start them and very little work is entailed in looking after them.



Anemone Pennsylvanica



Spring Beauty

Charming Display Throughout the Season

FOR a succession of bloom from early spring until late fall it would be difficult to obtain a better effect than appears in the beautiful garden of Mr. H. Spencer Case, of Hamilton. Diligent and intelligent work throughout the year results in an attractive floral panorama from March 15 until October. Every inch of space is made use of, and by studying the season of bulbs and various perennials a perfect succession is maintained from the time the snowdrops and crocuses appear until Jack Frost nips off the hardiest perennials in the fall.

"In early spring," said Mr. Case to a representative of THE HORTICULTURIST who called on him, "snowdrops are the first to appear. Then *Scilla Siberica* comes along. After these about 2,500 crocuses of different color make a brilliant display. Over 400 hyacinths are done blooming by the end of May. Narcissus and tulips, too, are in evidence from late April until early June.

"Perennials of different kinds, including columbines, oriental poppies, globe flowers and *Lilium candidum* come in during June. Altogether, there are about 450 varieties of roses, many of which have been imported from Ireland. Climbers decorate the fences and verandas. The crimson rambler and many kinds of clematis produce a brilliant effect during June. In July gladioli of all shades and *Lilium aratum* are most in evidence. *Lilium speciosum*

and a second crop of gladioli brighten the garden in August. I make four plantings of the gladiolus bulbs, the first early in May, and the succeeding plantings at intervals of 15 days. They are put in amongst the shrubbery and roses about four inches deep, wherever a space as large as a silver dollar is left, and in this way bloom is had from the last of July until the middle of October.

"I do not pay attention to annuals," continued Mr. Case, "because they die down too frequently and leave too many bare places. The perennials, when established, are there to stay. If I had more space I might have some of the annuals as well."

CULTURAL METHODS

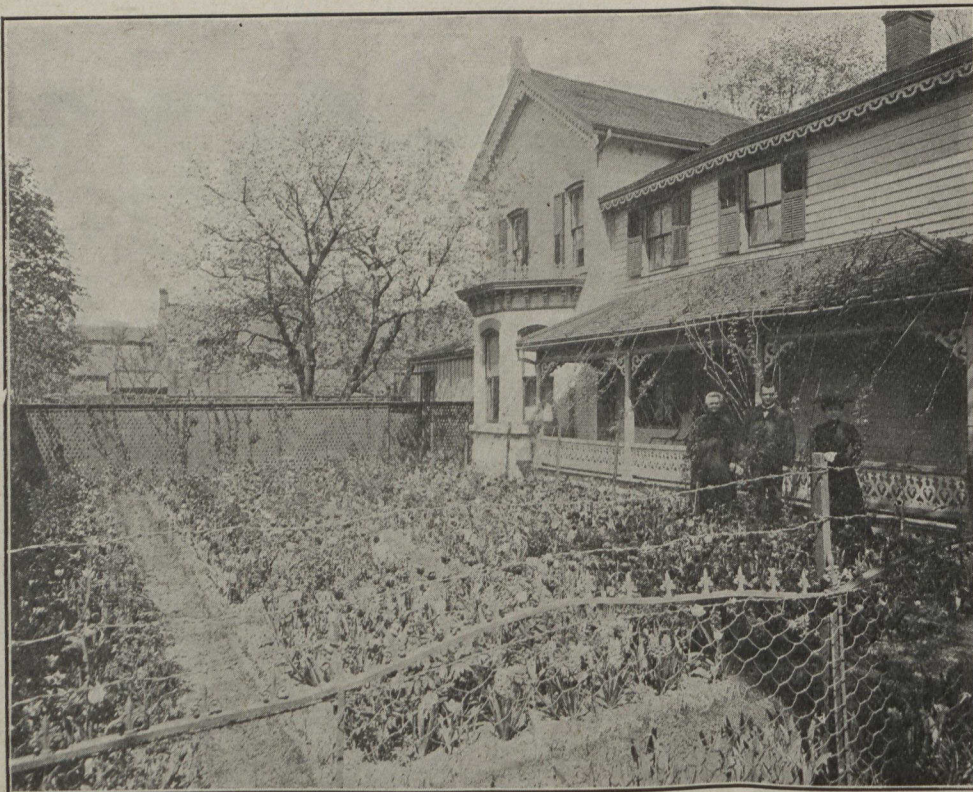
"In the fall," remarked Mr. Case, "I apply a mulch of straw about six inches deep as soon as the ground freezes. I have tried many kinds of mulch but prefer the straw to leaves, manure or other mulches frequently used. The objection to many mulches is that they mat down closely after heavy rains and hold the heat that is being given off by the earth, so that the bulbs are induced to grow. When growth is started prematurely the bulbs die again underneath the mulch and become blanched. I have seen beds of bulbs that were covered with leaves, where growth was induced in this way, and when the mulch was removed early in March, new leaves four inches long were lying flat along the ground. With

the straw this growth pushes its way straight up, and when the mulch is removed growth continues. Manure, besides being too heating, is objectionable on account of the unsightly appearance and disagreeable odors.

"When the straw mulch is removed in March I put on a sprinkling of powdered sheep manure and bone meal. A surface dressing is all that can be given, because the bulbs are so close together that no digging can be practised. The sheep manure and bone meal contain nitrogen and phosphates, and the rains wash these fertilizing substances into the soil readily. In April I fork around the rose bushes and loosen the earth wherever I can. When the foliage appears in May I look out for the rose caterpillar which is very troublesome in my garden. The only way to conquer it is to pick it off. The aphid can be held in check by spraying with nicotine and whale-oil soap. If the fight is begun in time three sprayings suffice for the season. I use about a tablespoonful of nicotine and one-quarter pound of whale-oil soap to three gallons of water. As the aphid have to be killed by contact, special care must be taken to apply it to the under sides of the leaves where the aphid collect. Paris green is liable to kill the foliage on roses. Helbore is the best poison to use for those insects which eat the leaves. It is just as effective as Paris green and does not do any damage to the plants.

"Mildew appears now and again, the date of first appearance depending on the season. It sometimes attacks the rose bushes in July, while other seasons it does not appear until much later. Powdered sulphur dusted on the plants gives satisfactory results. If the mildew has not obtained too firm a footing it will at least check the disease. In case this fungus is well established it is advisable to cut off the branches that are most affected and burn them. The conditions that result in rapid development of this trouble are cold, damp weather with sudden changes to warmer temperature.

During July and August there is not much to look after except watering and keeping the weeds and other objectionable growths from amongst the flowers. In September, *Lilium candidum* should be planted. In October crocuses, tulips, hyacinths, etc., should be put in. These bulbs can be secured from any reliable seed house, and may be planted around the edges of the beds or under the shrubbery. A rich soil is not required, because sufficient food is stored in the bulb to support it until it is matured. *Lilium aratum* does not thrive well in a strong soil. This bulb is a failure



Mr. Case's Tulip and Hyacinth Display last May

with many growers because they treat it too well. It seems to grow quickly until about 8 or 10 inches high when it is in rich soil, but then the leaves die down before any bloom is given. Most of the other liliiums, however, do well in moderately rich soil.

"Bulbs should not be covered too early in the fall. I generally put on a mulch about November 20, or after the ground is frozen hard enough to carry a person. If covered before the frost is in the ground growth starts and the tops become heated. When this occurs they do not mature satisfactorily."

SPARROWS DESTROY CROCUS

"Sparrows," said Mr. Case, "seem to be very fond of yellow crocuses, but they do not attack those of any other color. I have experimented by sprinkling bitter aloes on the bloom, and this has worked to perfection. The sparrows would pick at the bloom, but then step back and shake their heads and wipe their bills and fly away. Before I applied this remedy they had destroyed the petals of many of my best specimens. They seemed to want to get at the very heart of the flower. I like to harbor sparrows around my place, because they pick up many insects on the roses and other plants, but like many other beneficial animals, they have their faults. A mere sprinkling of powdered aloes on the petals of the



Roses and Lilies in the same garden in July

crocuses, however, prevents them from doing any damage to these plants. The aloes can be applied readily with a small blower."

The accompanying illustrations of Mr.

Case's garden give but a faint idea of what can be done with flowers by an industrious business man who has sufficient love for nature's beauties to spend a short time each day in his garden.

How to Succeed with Roses

NO collection of shrubs and flowers is complete without a few roses. Many gardeners plant a few of the common varieties, but lack of care and want of proper soil and attention results in a poor showing after they are in the garden a very few years. The rose-bed must be specially prepared, and the soil should be rich and mellow. Many of the varieties are tender, and will not thrive in northerly latitudes. Some of the half-hardy specimens can be grown with success if special protection is given to them during the winter. Special care, however, must be exercised in selecting varieties for planting in the different localities. At Tillsonburg, Mr. Geo. W. Tillson has had a fine display of roses for many years.

"In preparing a place for planting my roses," said Mr. Tillson to THE CANADIAN HORTICULTURIST, "I dug a bed 12 or 14 inches deep and carted the soil away. This was filled with a mixture of one-third cow manure, one-third rich soil from underneath a rich sod pasture, and one-third rich sandy soil from an old garden. In this way a permanent bed was made, and the quality of the roses

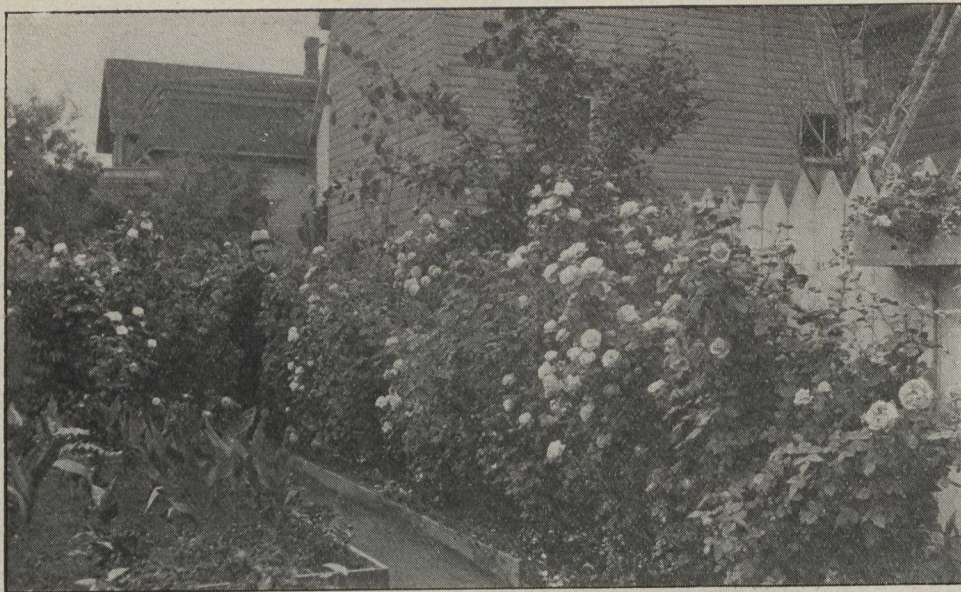
can be maintained for many years. Fresh fertilizers are not required every season. I had a circular bed eight feet in diameter, and a rectangular one 40 by 4 feet. The roses did well in these beds for four years. A dressing of coarse manure from the horse stable was put on each fall.

"With the average grower hybrid roses give the greatest satisfaction. They do not need so much manure, and will give better results with less attention. Tea roses require liquid manure, and soon play out. The hardy perpetuals run out in four to six years, and if planted in rich, well-prepared soil, they will last for that length of time without any special fertilizer. When they begin to deteriorate the bushes should be torn out and burned. No rose grower should be without some of the ramblers. Both the yellow and the crimson do well, but the yellow varieties need more protection from the cold. In cold sections it would be as well to confine the selection to crimson rambler and some of the best hardy perpetuals. La France is one of the most beautiful hybrid tea roses, and will endure more cold than most others of that class.

"In buying a collection, unless special care is taken in the selection, and unless the purchasers know what varieties will succeed well in that locality, it will be found that almost 50% will be lost during the winter. For this reason it is well to buy in large lots and get a few more than are required to fill the space. They should be secured from some reputable greenhouse man who understands the propagation and handling of roses. I bought most of mine from The Webster Floral Co., of Hamilton, and was well satisfied. I would not recommend amateurs to try propagating them at home, because this work should be left to an expert, and an amateur would not save enough to repay him for his labor. Hardy perpetuals average only about 75 cents for a good bush, while the teas and hybrid teas can be had at 10 to 25 cents each, according to age. The ramblers can be had at even a lower rate."

PRUNING AND PROTECTION

"In pruning," remarked Mr. Tillson, "my plan has been to cut off close in the fall, and cover the bed with light, strawy manure. I usually cut off the canes to about 12 to 16 inches long after



Roses as Grown in the Garden of Mr. W. G. Black, of Ottawa

the first hard frost comes. When trimmed in this way the tip always dies back about four to six inches. Tea roses have withstood the temperatures of mild winters without any protection, and have come out in the spring in good condition. These and the ramblers require pruning only to give shapely appearance. The ramblers, as a rule, cease to give number one bloom after two years, but it is such a strong grower that plenty of new wood comes each year to allow the old wood to be cut out. In this way the best of the new wood can be left each season.

“With the tea roses a vigorous growth of wood and foliage cannot be produced without causing an abundance of bloom. For this reason the plants belonging to this class require an enormous amount of fertilizers. In some of my beds I have made a small trench around each bush, and applied about a pint of liquid manure each day. If well fed in this way both the quality and the color of the bloom are much improved.

“For protecting tea roses the bushes should be set 12 to 14 inches apart. In the fall the beds should be boarded around with boards about 12 inches

wide. Straw should be put in around the plants and also over the top of slats placed over the top to prevent the snow from weighing down too heavily on the roses. The slats also keep the straw from being packed down tightly. I usually fill in the straw even with the top of the boards. All of the best bloomers suitable for garden culture will stand the average Canadian winter with such protection. This mulch should be removed in the spring after the heavy frosts are over. I usually take the covering off about the time garden operations commence. It is not wise to uncover the bushes too early.”

ROSE ENEMIES

“Roses,” continued Mr. Tillson, “have some insect enemies that are very difficult to fight. The rose chaffer and the aphid, or green fly, are very troublesome every season. In my garden I have no trouble with fungous diseases. For the chaffer nothing but hand picking is effective. They attack only the blossom, and would spoil a bloom before a poison had taken effect, even if the strongest poison were used in great quantities. I frequently have picked a pint or more of these pests at noon, and by six o'clock as many more had appeared on the bushes. They do not bother roses that are not fragrant. The more perfume a rose gives the more serious is the trouble from these pests. I have never seen these insects on the rambler roses. The aphid can be successfully combated with kerosene emulsion or with tobacco water.”

Horticultural Societies and the Children

HORTICULTURAL societies can make their efforts count for much in beautifying the town or city home surroundings, but for engendering a love for plants and flowers no more valuable step can be taken than to distribute seeds and plants among the school children. Several societies in Ontario have done this during recent years, and many purpose doing so for 1906. Through the children the parents and friends are interested. Pleasure given the child, gives pleasure to the parent; and although it may appear that the labor and trouble along these lines with young people may not be resulting in as much good as we think they should, in the majority of cases it is time well spent for the society as well as for the children.

Some of the best ways of accomplishing this work have been outlined for THE HORTICULTURIST by Mr. Wm. Hunt, of the Ontario Agricultural College, Guelph, who has started and helped many horticultural societies in this work. “First of all try to interest the govern-

ing bodies of the city, town or municipality and school boards in the work,” writes Mr. Hunt. “Above all, get the school teachers interested. I have never yet seen a failure in any class or school where the teacher or teachers were interested. No better medium for this purpose can be found than by a few enthusiastic and tactical members of horticultural societies getting in touch with the teachers and securing them as members of the local society. This done, the remaining work is comparatively easy as they will cooperate with the members of the society and bring all their persuasive influence to bear on the members of the school board so as to get united and interested action.

“With the introduction of nature study, school gardening, etc., in the curriculum of our schools as at present decided, by the way, an introduction that should have the endorsement of every true Canadian who has the truest and best future interests of our grand country at heart—it should be no difficult matter to interest school boards

and school teachers in this work. While lecturing to classes of school teachers from all parts of the Dominion, who are taking a course in nature study, school-gardening, etc., on the culture of plants and flowers, I have been more than delighted at the close interest shown in the lectures and in the practical demonstrations. Those who wish to begin in this good work, should confine themselves at first to something simple and easy of whatever form it may take, so that the young plant grower can attain some degree of success at the first attempt. “Nothing succeeds like success,” and by giving the young people something to do that they can succeed with, it will encourage and stimulate them to attempt still greater achievements, whilst on the other hand the attempting of anything too elaborate might end only in disappointment, failure, and perhaps disheartenment.

“Another point is to endeavor to issue with the seeds, plants, etc., distributed, a printed bulletin or paper, giving implicit and detailed instructions

as to culture and care of the same. This method intensifies the interest and awakens in the scholar the idea of being closely observant as to results, one of the principal factors necessary to success, and one that helps materially from all points of view.

BRANTFORD'S GOOD WORK

Excellent work of this nature has been done by the society at Brantford, Ont. It is described in a recent letter to *THE HORTICULTURIST* by Sec. R. Walter Brooks, whose letter reads as follows: "Our society, in 1903, held an exhibition of fruit, flowers and vegetables which was a failure, financially.

"In 1905 we distributed about 6,000 packages of seeds, including asters, scabiosa, verbena, salpiglossis and Phlox drummondii. A package of each was given to any pupil desiring them. The exhibition took place in the fall, when we distributed about 125 plants and 500 hyacinths as prizes. Every exhibitor who did not get a plant was given a bulb. It was one of the most successful exhibitions ever held here, although we made no charge for anything.

"This year we are starting out on the same lines, but more extended. The seeds selected are asters, scabiosa, verbena, zinnia and nasturtium. We did not consider that the children were successful with phlox and salpiglossis, hence the change. We have 8,775 packages ready for distribution this year. These include one ounce of asters, 150 packets with 100 seeds per package; one ounce of verbenas, 220 packets with 60 seeds per package; one ounce of scabiosa, 200 packets with 25 seeds per package; one pound of nasturtium, 355 packets with 10 seeds per package; one ounce of zinnia, 140 packets with 25 seeds per package.

"Papers have been distributed to the public and separate schools asking for the names of all those desiring seeds. I have 1,407 names from the public schools. The separate schools have not returned theirs yet. The officers and teachers of the schools render us all the assistance possible in getting the names and distributing the seeds."

SIMCOE CHILDREN INTERESTED

In the town of Simcoe, Ont., the horticultural society considers its work among the school children about the most valuable it undertakes. The chairman of the committee having charge of this work, Mr. Henry Johnson, has written *THE HORTICULTURIST* as fol-



Returns from One Season's Work with School Children

lows: "We commenced giving seeds to the children of our public schools in 1904, giving them that year, asters, nasturtiums and pansies. In the fall we had an exhibition, but did not offer prizes. There were 125 entries. The understanding was that only flowers grown from seeds given by the society should be shown.

"Last year we distributed the same kinds of seeds, but the children were told that flowers grown from any other seeds might compete as well. Our show was held in September and was a great success. There were 440 entries made by about 125 pupils. We had as high as 30 entries in a section, and judging was quite a task. Prizes to the value of \$50 or \$60 were awarded. They consisted of bulbs, seeds, plants and garden literature, donated by some of our members. Prizes were won by 54 children, some of them getting several.

"This year we gave them asters, phlox, verbenas and zinnias. About 230 of the pupils of the public school asked for seeds and we gave them about 650 packets. We bought only the best seed, got it at wholesale and put it in packets ourselves. The direct benefits from the distribution of seeds to the children in this way are apparent."

Tomatoes on Sod Land

W. C. McCalla, St. Catharines

We are considering planting tomatoes on a piece of new ground, sandy loam, which has not been plowed for 15 years. Will tomatoes do well on such land, if it is plowed early and cultivated?—(Subscriber, Collingwood.

I would advise you not to attempt to grow tomatoes this year on such land. Had the old sod been plowed

last fall, a large amount of work this spring with disk and drag harrows might put it into fair shape for tomatoes. I would, however, much prefer to give a heavy dressing of manure, plant corn this year, and it would then be in fine condition for tomatoes in 1907.

BULB DEPARTMENT

Questions answered by
Mr. Herman Simmers

Bulbs for Spring Planting

What common bulbs should be planted in the spring? What soil conditions are most desirable, and at what time of the season should they be planted? In what month or months do spring-planted bulbs bloom?—Subscriber, Owen Sound.

There are a number under this head. We will include corms, rhizomes, tubers, etc., in case Subscriber may not be aware of the exact term. All the bulbous appearing plants when dry have the appearance of bulbs, and this leads many people to think they are actually bulbs, whereas the actual botanical difference is very great, although the results are somewhat the same. To answer this question I will simply call them all bulbs, as is the usual custom.

The list includes: Tuberous rooted begonias, double and single flowering, amaryllis, cannas, dahlias, gladioli, liliums, caladiums, callas, gloxinias, hyacinths, candicans, tuberoses, oxalis, tigridias.

In most cases the soil conditions are a well enriched sandy loam. The time of planting should be April and May. The flowering period continues from July until frost takes them off.

Eastern Ontario Vegetable Growers Organize

Thomas Delworth, Weston, Ontario

HAVING spent a few days among market gardeners in some of the leading vegetable growing sections of Eastern Ontario for the purpose of organizing branches of the Ontario Vegetable Growers' Association, a brief outline of my trip may be of interest. Associations were formed at Ottawa, Kingston and Napanee.

I arrived at Napanee on March 23 and hunted up the vegetable growers. There are not many market gardeners here, but there are a large number of farmers engaged in growing vegetables for the canning factory. These men I found to be nursing a very sore grievance. The canning factory has been running only one season, and I was informed that about the middle of the tomato season, at the heaviest picking, the factory refused to accept delivery. These growers had no other outlet for their crop. One grower told me he turned his cows into his tomato patch; others allowed them to rot on the ground. I believe the factory people claim that since it was their first season their plant was in a partly unfinished state, and the crop came in faster than they could handle it. This year, with a completed plant and better equipment, they expect no trouble. However, the loss last year seems to have fallen entirely on the growers (as usual), their contracts with the factory apparently allowing them no redress, and it is not surprising that some of them are feeling disgusted.

I met a number of the growers at the town hall, and after talking matters over and explaining the objects of the Ontario Vegetable Growers' Association, they organized a branch and elected Mr. Vandebogart president; Mr. Thompson vice-president, and E. M. Sherman secretary-treasurer.

At Kingston I found that several were engaged in market gardening, growing vegetables for the Kingston market. Almost all decided to come in with us. I held two meetings to discuss the matter with them. At the second, for which Mayor Mowat, of Kingston, very kindly permitted us the use of his private office in the city buildings, a branch association was formed, with Robt. Bushell, of Williamsburg, president; Richard Baiden, of Portsmouth, vice-president, and C. H. Adair, of Cataraqui, secretary-treasurer.

Ottawa came next in order for organization. The growers have plenty of greenhouses. I visited several of them, including those of Robt. Bailey and H. C. Fentteman, of Ottawa South, and Frank Williams, of Billings Bridge. Mr. Fentteman was cutting cucumbers, White Spine, March 29. He showed me an arrangement of angle iron on his

greenhouse plate for the bottom pane of glass to butt against, preventing splitting by ice, that I consider an excellent device.

At Mr. Williams' I saw the largest greenhouse devoted to growing lettuce I had seen since leaving Toronto. He has a large house, 40 x 150 feet, and two others slightly smaller. The large house and one of the smaller ones are in lettuce, and the other devoted to bedding plants. The lettuce is Grand Rapids grown, mostly on solid benches, producing a first-class article.

Mr. Williams is a noted grower of the famous Montreal Nutmeg melon—that aristocrat among melons that so many have tried in vain to produce satisfactorily. He kindly explained to me his system of handling them; first starting the plants in berry boxes in the greenhouse, then setting them out in the field and putting cold frames over them until settled warm weather, then removing the frames and letting them run. Some of these melons are sold in Ottawa and some shipped to the U.S., and some to Toronto, selling for about four times the price of our local-grown melons. I am not an expert melon grower, but my own impression is that the extraordinary quality in flavor for which these melons are so famous is more a matter of soil and location than variety or method of culture, though the latter probably have something to do with it.

Before leaving Ottawa we held a meeting in the Market Hall, at which a branch association was formed, with Mr. Williams president; Mr. Fentteman vice-president, and T. Mockett, of Billings Bridge, secretary-treasurer.

From Ottawa I went to Montreal, Mr. Williams, the newly-elected president of the Ottawa branch, accompanying me. While in Ottawa I met Mr. Monk, M.P. for Jacques Cartier, who, with his usual kindness and courtesy, gave me a letter of introduction to Mr. Camille Légaré, Cote des Neiges, Montreal, one of the largest growers of greenhouse vegetables in Canada. His greenhouses were a revelation. I had heard of them at home, but "the half had not been told." Mr. Légaré was away when we arrived, but his son showed us around the place.

The first range of houses we entered comprised 13, each 20 by 125 feet, built en bloc. The outside walls were about seven feet high, centre gutters about the same from the ground, allowing free and open passage from house to house, 1¼ inch pipe purlins and supports, and one inch pipe cross-ties connected with the purlins by Ts, and drawn together in the centre by R and H couplings, preventing spreading and

avoiding the necessity of ridge supports. Hot water heating, overhead flow, principally 3½ and 4 inch is used, with underbench returns mostly two inch. Ventilators at the ridge are mostly King apparatus.

Two of these houses were filled with parsley; two were devoted to flowers, chiefly carnations; one or two were filled with watercress, radish, etc. The rest, or fully half the range, were in lettuce, some on raised and some on solid benches. Everything looked fine. The next range, comprising two houses, 50 by 200 feet, and 50 by 250 feet, respectively, was entirely devoted to lettuce, all grown on solid benches or, more correctly speaking, no benches at all. The crop was simply planted on the level ground. These immense houses are built end to end, allowing them to be detached at the sides, the walls being built high enough to allow of a row of sash ventilators being built in them. A row of large ventilators at the ridge completed the ventilating arrangements, those at the ridge being operated by an apparatus worked by an endless wire cable.

The lettuce grown in these houses is Grand Rapids, planted about seven inches apart. Some of it was being cut and packed while we were there. It was about 15 or 16 inches high, with large, heavy heads, quality excellent in every way, selling, I believe, for 60 to 80 cents per dozen wholesale in Montreal.

As we were finishing our inspection Mr. Légaré returned and gave us a very cordial welcome. The main object of our visit to Montreal was to induce the Montreal and Quebec growers to form an association for themselves on somewhat the same lines as ours in Ontario. We discussed the matter with Mr. Légaré at length, and he was confident that something can be done in the matter about September.

Getting back to general discussion again, Mr. Légaré informed us that he planned to erect about 25,000 feet more glass this summer, and as Mr. Williams is planning a new range of houses, too, we were very soon all knee deep in a discussion of different methods of construction.

The concensus of opinion seems to be that while raised benches may suit very well for winter months, yet, to produce a first-class article of head lettuce, even of the Grand Rapids variety, solid ones are much the best. At each of the points I visited the growers showed great interest in the work that is being done by the Ontario Vegetable Growers' Association, and were surprised to hear what the association already has accomplished.

Ornamental Beds of Hardy Grasses

HAVING had several letters from readers of THE HORTICULTURIST, enquiring as to the best varieties of hardy grasses to plant in beds on the lawn and the position in which they should be placed, I submit the following: The varieties mentioned should be planted in circles, one around the other, and having a common centre, the whole making a round bed. Numbering the circles from the outer edge, or grass margin, the distances apart for large or small gardens for good results would be as follows:

No. one is six inches from the grass margin and planted thick to form a mat. No. two is eight inches from No. one and planted six inches apart in the row. No. three is eight inches from No. two and planted six to eight inches asunder in the row. No. four is 10 inches from No. three and planted six to eight inches apart in the row. No. five is 12 inches from No. four and planted eight inches apart in the row. The centre plant will cover two feet in diameter.

Thymus vulgaris coccinius may be planted in No. one. This plant forms into a dense mat or cushion, and is covered with scarlet sweet-scented flowers during the summer. It holds its foliage during the winter, and turns to a beautiful bronze purple color on the approach of cold weather.

The second row I would make almost white. To get this color plant it with *Poa trivialis alba vittata*, a beautiful, hardy, variegated grass that grows about four inches high. Clip the flower stalk off.

The third row or ring plant with *Armeria, va. caespitosa sea* (Pink, Thrift). It forms dense cushions of green or grass-like leaves, and throws up numerous wiry stems all summer, producing bright rose-colored flowers.

The fourth row or circle I would plant with *Festuca glauca*, Fescue Grass. This is often grown as an ornamental grass in conservatories, and few know what a grand bedding plant it is. It is as hardy as an oak tree, and has bluish-green leaves. It grows about six inches high.

The fifth row plant with *Arrenatherum bulbosum folia variegata*. It is a pretty, bright, variegated grass, growing in tufts, one to two feet high, and quite hardy; not common.

The sixth, or centre, should be planted with *Eulalia Japonica zebrina* (zebra grass), named zebra on account of the yellow stripes or bars across the leaves. This plant grows to five feet high, and is the best of the *Eulalias*, of which there are a number of varieties, natives of Japan. The above arrangement makes a very ornamental bed.

Vegetable Diseases

THE CANADIAN HORTICULTURIST has obtained the following information from Professor Lochhead, of Guelph, in regard to several points debated at recent meetings of the Toronto Branch of The Ontario Vegetable Growers' Association.

ONION SMUT

This is one of the most widespread diseases of onions, and every year does a great deal of damage. In every case it is well to practise a rotation of crops, for smut spores may live several years in the ground. Where possible and practicable the transplanting of the seedlings of onions will bring about a crop that is smut-free. It has been found that the young plants are attacked during the early part of their seedling stage soon after they germinate, and if the seedlings can be grown in soil that is smut-free there is very little risk of their being inoculated after being transplanted.

Many growers of onions, however, object to the transplanting idea and maintain that it would not pay. Nevertheless, some of the New York onion growers have taken to transplanting and find that it does pay in bigger

yields and in little smut. The New York Experiment Station obtained very successful results by spraying a mixture of sulphur and air-slaked lime in the drills with the seeds. They used 100 pounds of sulphur and 50 pounds of air-slaked lime per acre. This material was sprinkled in the rows along with the seed and very successful results were secured.

CORN SMUT

Corn smut may remain for several years in the soil and when present is liable to infect young corn plants. It differs from the smuts of wheat, rye and oats in that any portion of the young corn plant can be inoculated at any age where growing tissues are present. While it may be of advantage to treat seed corn with formalin before planting, such treatment will not prevent the smutting of corn.

As it is impossible to spray the young corn plants for the prevention of this, the only thing left to the grower is to remove the boils of smut as they appear, and destroy them. Careful attention along this line from year to year, and a rotation of crops will do much to lessen the ravages of this trouble.

THE BLACK SPOT ON BEANS

Bean anthracnose appears first as small dark spots usually bordered by a line of purple. The spots gradually increase in size, run together, and form large irregular blotches, that produce depressions in the pod. It sometimes attacks the stems. The method that has been adopted on a large scale with considerable success is to soak the seed in formalin solution for an hour and a half, (this solution is made by dissolving one-half pint of formalin in 15 gallons of water) and when the plants are two or three inches high, to spray with the regular Bordeaux mixture, 4-4-40 formula. The spraying should be repeated twice or three times at intervals of 10 or 12 days.

ASPARAGUS RUST

It is interesting to observe the opinions of different experimenters regarding the treatment of Asparagus Rust. The Germans recommend the burning of the affected asparagus plants late in the autumn after the plant has laid its stock of food for the season. The Connecticut, Massachusetts, Vermont, and New Jersey Station experimenters recommend the same treatment. A Rhode Island experimenter later questioned the advisability of burning the brush in late summer. As late as 1900 an Iowa experimenter recommended burning as undoubtedly the best method of preventing the rust. Whatever views we may hold regarding the importance of this treatment, asparagus plants should be carefully cut and burned at the end of the season. It is possible, however, that at this time many of the spores have fallen from the plants.

Good results were secured on a large asparagus plantation in New York State by spraying with the Resin-Bordeaux mixture. The sprayings were made August 5 and 17, and September 1. The Resin-Bordeaux mixture was prepared by first making the Bordeaux mixture in the usual way, and adding two gallons of stock solution of resin for every barrel of the Bordeaux. The stock resin solution was prepared according to the following formula: resin 5 pounds, potash lye 1 pint, fish oil 1 pint, and water 15 gallons. The whole should be boiled until the solution will mix with cold water, forming an amber-colored solution.

Celery Blight is due to a fungous disease that can be controlled by spraying with Bordeaux mixture. At the Central Experimental Farm we have had excellent results by keeping the plants covered with Bordeaux mixture from the time they are set out until autumn. Most injury occurs in dry weather. The usual formula for Bordeaux mixture is 4 pounds sulphate of copper, 4 pounds lime and 40 gallons of water. This should be applied in a fine spray.—W. T. Macoun, Ottawa.

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THE FRUIT DIVISION

In view of the action Hon. Sydney Fisher considered it expedient to take at the recent Dominion Fruit Conference, to avoid giving an explanation of his reasons for placing the Dominion Fruit Division under the control of the Dairy Commissioner, it is well that the views of the fruit growers in regard to this matter shall be made known more fully than has yet been done. At the outset it may be well to repeat that the discussion of this matter does not bear on the capabilities of the present dairy commissioner nor of the chief of the fruit division, but only on the principle that is involved.

The main reasons that have been advanced by Hon. Mr. Fisher for the present arrangement are that the problems relating to the fruit industry that can be handled by the Dominion Department of Agriculture, bear practically entirely on the marketing and transportation of fruit, and as the markets and cold storage divisions of the department have always been under Mr. Ruddick, it is, therefore, a matter of convenience in the department that the fruit division, also, shall be under his charge. It has been claimed, also, that as the fruit division had previously been under Prof. Jas. W. Robertson, practically no change was made in its status by leaving it under the dairy commissioner. Dealing with this last contention first, it can be stated positively that the cases are not analogous. Prof. Robertson was not known as the dairy commissioner, but as the "Commissioner of Agriculture," in which capacity he was in charge of not only the dairy and fruit divisions, but of the live stock, seed and marketing divisions as well. To all intents and purposes he acted in the capacity of the Deputy Minister of Agriculture. When he retired the live stock division was continued under an independent commissioner. An independent commissioner was appointed for the seed division. This was the case, although the complexity of the questions relating to that division are not to be compared with those connected with the

fruit industry. The fruit division, however, was placed under the dairy commissioner, a man who knows practically nothing about the growing and handling of fruits.

By this arrangement the chief of the fruit division, no matter how capable he may be, is forced to submit everything of importance relating to his work to a man who (being a dairyman by inclination and training) is naturally more interested in dairying than in fruit growing and who, as already stated, knows practically nothing about fruit growing. Should the dairy commissioner not give his approval to the prosecution of any certain line of work that settles it, as the chief of the fruit division has no right to confer direct with the Minister of Agriculture. In other words, the fruit growers, through their recognized representative in the department, are cut off from conferring direct with the minister. By this arrangement the minister gives reason for the belief that he considers the fruit division of very minor importance.

That this is his opinion is further indicated by his claim that the only questions relating to the fruit industry that his department can handle properly are those concerning the marketing and transportation of fruit. This contention on his part shows how little he appreciates the importance of the fruit industry. The result of the recent fruit conference should have enlightened him somewhat on this point. There is no reason why the work of the fruit division should not develop until it becomes one of the most important branches of the department of agriculture.

In the first place the staff of fruit inspectors needs to be considerably enlarged and the Fruit Marks Act enforced more stringently than it has been. A monthly and, during the summer and fall months, a semi-monthly crop report should be issued that would deal with crop conditions not only in Canada, but in the United States and Europe as well. If necessary, a special clerk should be placed in charge of this work. The cooperative growing and marketing of fruit is only in its infancy, and is a matter that properly falls under the control of the Dominion Department of Agriculture. To ensure our fruit being marketed in better condition more of these associations should be formed and they should be assisted, in various ways, in finding a market for their fruit both at home and abroad. In Nova Scotia, Ontario and British Columbia efforts in this direction have been more or less successful. Each province could learn by the experience of the others, but almost nothing has been done by the fruit division to promote this work. No better men to undertake it could be found than the fruit inspectors who might be utilized during the seasons when their work is slack.

The package question is a serious one. Each province has certain packages, and the lack of uniformity is injurious to the trade. The barrel question has been settled in part, but it is only one branch of the subject. There should be more harmony in this matter, and the fruit division should set to work to bring it about.

The development of interprovincial trade, the inspection of conditions relating to the sale of fruit on commission, the inspection of nursery stock and numerous other matters require to be undertaken by the Dominion Fruit Division. They will not be pushed with the necessary vigor until the fruit division has at its head a fruit commissioner responsible to the Minister of Agriculture only. As it is now, no matter how excellent the work done by the chief of the fruit division may be, the credit for such goes to the chief of the dairy division, who is the recognized head of both divisions. This, in itself, is certain to hamper and discourage the extension of this work.

THE HORTICULTURIST is not making a threat when it states that as far as the fruit growers are concerned this is a matter that will not down. The present agitation will continue until the desires of the growers are met. Hon. Sydney Fisher, at the recent conference, showed

himself to be anxious to do what he could to promote the fruit industry. It is hoped that he will recognize the strength of the feeling that exists in regard to this matter, and that he will make the desired change at the earliest opportunity.

HORTICULTURAL SOCIETIES' ACT

The new act governing horticultural societies, recently passed by the Ontario Legislature, places the horticultural societies of the Province on an entirely new basis, and should lead to a great extension of their work. The old Agricultural and Arts Act, under which the societies have received their grants in the past, has been very unsatisfactory. Horticultural societies had to share the government grant for the district in which they were organized with the agricultural societies in the same district. The number of agricultural societies in the section determined the size of the grant the horticultural societies received. The value of the work they were doing was not taken into consideration.

The effect of this, in many cases, was to create enmity between the officers of the agricultural and horticultural societies. In many counties the influence of the officers of the agricultural societies was sufficient to block the formation of horticultural societies in centres where they were greatly needed. In other cases, where the officers of an agricultural society were afraid, a horticultural society might be established, and the government grant to the agricultural society thereby reduced, a few of them formed themselves into a dummy horticultural society, drew the grant to the horticultural society, and turned it into the funds of the agricultural society.

Under the new act, which will come into force the first of next year, this is all changed. Horticultural societies have been placed on a basis of their own and, anticipating that there will be an increase in their number, the government grant has been increased from about \$6,400 to \$8,000. In future societies will receive their grants in proportion to the amounts they expend for horticultural purposes. This will lead to a reduction in the grants of a few societies that have been receiving grants that were above the average, while societies like the one at St. Catharines, which last year expended ten dollars for every dollar it received from the government, will be assisted.

The formation of dummy societies to help agricultural societies will not be possible. A city society will not receive a grant exceeding \$500, a town society one exceeding \$200, and an incorporated village society a grant exceeding \$150. Diversity of work by the societies is assured by a regulation which prevents a society from expending more than one-third of its total receipts for any one line of work. A special grant of \$800 is made to assist the societies in Ottawa, Toronto, Hamilton and London. The Toronto and London societies will benefit most by this arrangement as their grants under the old act were small. The main features of the act were endorsed by the members of the Ontario Horticultural Association at their convention in Toronto last November. The act should greatly benefit our horticultural societies.

Have any of the readers of THE HORTICULTURIST any back copies to sell? Since the purchase of THE HORTICULTURIST from the Ontario Fruit Growers' Association, we have been endeavoring to secure a complete file of THE HORTICULTURIST since its establishment in 1878, to date. We have nearly succeeded, but not quite. The following issues are still lacking: September, 1878; January, February and September, 1880; May 1882; March, 1886; November, 1891; and February, 1900. Should any of our readers have these numbers, we will be willing to purchase them. Should they not have these copies unbound, but have them in a bound volume, we would gladly buy these

bound volumes. It is very desirable that the publishers of a magazine should have the bound volumes of the magazine from its establishment, and we trust our readers will be able to help us by furnishing the missing copies needed to complete our file.

We have informed our readers on several occasions that it is our desire to make THE CANADIAN HORTICULTURIST the best horticultural publication on the continent. That we are succeeding is indicated by letters we receive from our readers, including the following one from Luke Brothers, Nurserymen, of Montreal, Que.: Enclosed find our subscription for another year. We take this opportunity of expressing our appreciation of the valuable magazine you are producing. We get horticultural magazines from all parts of the continent, and may say that there is none which gives us greater pleasure, or greater profit than THE CANADIAN HORTICULTURIST. We wish you continued success.

Fruit growers who have followed the debates in the House of Commons regarding the now famous shipment of apples made by E. D. Smith, M.P., to the old country, and which was so unfavorably commented on by one of the Canadian commercial agents, will feel considerable sympathy for Mr. Smith. There is no reason to believe that this shipment was made with any intention to deceive, and as it did not receive his personal supervision, it is unfortunate that Mr. Smith, whose reputation as a shipper is well known, should have been given such unpleasant notoriety in a matter of this kind.

Horticultural societies that have not already interested school children in the growing of flowers should do so at once. This line of work does not call for a great expenditure of funds, and it has the effect of gaining the interest of the children at a time in their lives when they are likely to be most benefited thereby. Some excellent suggestions are contained in the article in this issue dealing with this work. It is not too late for societies that have not arranged already to do so to undertake work of this nature this year.

It was recently announced through the press that a certain well-known firm of apple shippers had been convicted for the fifth time of infractions of the Fruit Marks Act. As the law stands, such firms cannot be fined more than a small sum. The profits they are able to make by breaking the law are greater than the fine they are likely to incur when detected. It is time the law was amended, so that crime of this nature can be prevented.

Preventing Slumps in Prices

A. B. Cutting, B.S.A., Guelph

One of the crying needs of our fruit industry is for a system of distribution that will insure a greater demand for our produce and, as a consequence, better prices. Just how to establish a well-organized system of distribution is a difficult problem to solve. It is a noticeable fact, however, that when slumps occur in the markets of our larger towns and cities, often there are small towns where fruit cannot be bought at any price.

The keynote of the problem seems to lie in co-operation. Some co-operative arrangement with dealers in small towns, by which they may communicate their needs direct to the growing centre, or indirectly through the larger dealers of the cities, would tend to lessen the difficulty. By this means the empty and full markets could be located and shipments consigned accordingly.

THE HORTICULTURIST is getting better and more interesting all the time.—John Spence, Henrysburg, Que.

The New Bill Governing Horticultural Societies

THE revision of the Agriculture and Arts Act including the new bill governing horticultural societies introduced into the Ontario Legislature by Hon. Nelson Monteith, and which has been passed, entails several changes that will completely alter the basis for which the horticultural societies of Ont. will receive their government grants. The new bill will take effect in Feb., 1907.

The sections that are of most interest to horticultural society members read as follows:

7.—The mode of organization shall be as follows:

(a) A declaration, in the form of Schedule "A" to this act, shall be signed by those persons (residents of the municipality in which the society is organized) desiring to organize a society under this act. In the case of a city having a population of 30,000 or over, the number of such persons shall be at least 125; in the case of a city with a population of less than 30,000 the number shall be at least 75. Societies organized in towns having a population of 2,000 or over, shall have at least 60 members, and in the case of an incorporated village the number shall be at least 50.

(e) The first meeting of the horticultural society shall be held during the second week in January next ensuing, of which meeting at least two weeks' public notice shall be given by advertising in one or more newspapers published in the district.

(g) At the said first meeting there shall be elected a pres., a 1st v.-pres., a 2nd v.-pres., and not more than nine other directors, all of whom must be members of the society in good standing, or who must become so within 14 days after their election, who, together shall form the board of directors, a majority of which board shall reside in the municipality in which the society is organized. At the said first meeting the society shall appoint two auditors for the ensuing year.

(h) The board of directors, from among themselves or otherwise, shall appoint a sec. and a treas., or a sec.-treas., who shall remain in office during pleasure. The sec. or the sec.-treas., by virtue of his office, shall be a member of each committee appointed and shall have the power of managing director, acting under the control and with the approval of the board of directors.

9.—(1) The objects of horticultural societies shall be to encourage improvement in horticulture.

(a) By holding meetings for discussion and for hearing lectures on subjects connected with the theory and practice of improved horticulture.

(b) By holding exhibitions and awarding premiums for the production of vegetables, plants, flowers, fruits, trees and shrubs.

(c) By the distribution of seeds, plants, bulbs, flowers, shrubs and trees in ways calculated to create an interest in horticulture.

(d) By promoting the circulation of horticultural periodicals.

(e) By encouraging the improvement of home and public grounds, by the planting of trees, shrubs and flowers, and by otherwise promoting outdoor art and public beauty. (Note—This is a new clause.—Ed.)

(f) By offering prizes for essays on questions relating to horticulture.

(g) By improving and otherwise procuring and distributing seeds, plants, shrubs, of new and of valuable kinds.

(2) A society shall not expend more than one-third of its total receipts in any one of the lines of work mentioned. (Note—A new clause.—Ed.)

No society shall hold an exhibition, or offer premiums, in connection with the exhibition of any agricultural society or societies. (Note—A new clause.—Ed.)

A city society shall not receive a grant exceeding \$500, a town society a grant exceeding \$200, and an incorporated village society a

grant exceeding \$150. A newly formed society the first year of its existence shall receive a grant on the same membership basis as other societies, but in regard to the amounts expended for horticultural purposes it shall receive a grant equal to the average grant paid during the preceding year to the other societies in its municipal class. (Note—An entirely new clause.—Ed.)

10.—(1) The annual meetings of the several societies shall be held during the third week in January of each year at such time and place as the board of directors may determine. At any such meeting those members only who have paid their subscriptions for the ensuing year shall be entitled to vote.

17.—(a) On or before the first day of May, of each year, the officers of every society shall send to the Department an affidavit, that may be sworn to before any justice of the peace, in the form of schedule "B" annexed to this act, stating, on forms to be provided by the Department, the exact financial transactions of the society during the previous year. This statement shall set forth plainly the number of members in good standing that belong to the society, the amounts paid in prizes for horticultural productions, and the amounts expended for each of the purposes defined in section 9 of this act. This statement also shall set forth the amounts expended for officers' salaries and expenses, and for the defrayment of all other expenses legitimately incurred by the society in its work. Such moneys shall be considered as having been expended for horticultural purposes.

(b) Should it be found, within one year after the receipt by the Department of a society's annual statement, that an officer or officers of the society had wilfully made false returns with an intention to deceive, such officer or officers shall be liable upon summary conviction before a justice of the peace, to a fine not exceeding \$100, or less than \$20, or imprisonment in the common gaol of the county for a period not exceeding six months or less than two weeks.

19. An amount not exceeding \$8,000 shall be subject to division among all the horticultural societies of the province as follows:

(a) \$2,400 shall be subject to division among all the societies in proportion to the total number of members of each society in the preceding year.

(b) \$4,800 shall be subject to division among all the societies in proportion to the total amount expended by each society during the preceding year for horticultural purposes, as shown by their sworn statement provided for in sec. 17.

(c) In addition to the above, \$800 shall be subject to division among the horticultural societies in cities having a population of 30,000 or over in proportion to the number of members in the current year, as shown by their sworn statement provided for in sec. 17.

LARGE AND ABUNDANT CROPS are usually obtained by the grower who uses his intelligence in cultivating the soil. Intelligence and hard work count for but little unless they are combined with good tools. By using Iron Age Implements hard work is dispensed with, and larger crops are assured. A card mailed today to Messrs. J. A. Simmers will bring a Catalog telling you why these goods are better than other kinds.

If any of our readers would like to purchase bound volumes of THE HORTICULTURIST for 1905, we have a limited supply on hand which we can supply for \$1.25 per volume. When bound, THE HORTICULTURIST is a neat and attractive book, well worth keeping.

THE CANADIAN HORTICULTURIST has grown larger and has much improved since I was last a subscriber.—Charlotte Carroll

The Fruit Men Meet the Government

THAT was a most interesting scene which greeted the visitor to the Privy Council Chamber, when on the 23rd ult. Sir Wilfrid Laurier and his cabinet met the large delegation from the Fruit Growers' Convention, which had been appointed to carry the resolution relative to the express companies before the Government. The committee, whose names will be found to the memorial below, was enforced by 20 or 30 other delegates and members of Parliament. All were ushered into the Premier's presence by his secretary, and Hon. Mr. Fisher who was to introduce them to him, being delayed a moment in his office, the introduction was made by the chairman, Rev. Father Burke, of P.E.I., who is well known to Sir Wilfrid, and well acquainted with every member present. Chairs as far as they could be secured having been taken, Father Burke said he was pleased to introduce this important delegation. It had come to make the very moderate demand that express companies be subject to the Railway Commission, so that redress might be had when injustices were inflicted. In his country they had only one company so far, the Canadian Express Company. He hoped for the admission of others in the interest of improved rates. He read the memorial prepared by a sub-committee composed of Messrs. Bunting, Smith and Johnson, and approved by all, and called on gentlemen from the different provinces to express their views.

The memorial was as follows:

To the Rt. Honourable Sir Wilfrid Laurier,
Prime Minister of Canada, and Honourable
members of the Government:

HONOURABLE GENTLEMEN,—We, the Committee appointed by the Conference of Dominion Fruit Growers, assembled at Ottawa, at the request of the Honourable Minister of Agriculture, for the purpose of considering questions of national importance relating to the fruit industry of Canada, desire, under instruction from the Conference, to lay before you a memorial which has for its object the enactment of legislation by your Government that will, we believe, be of great advantage to the fruit growers of the various provinces, as well as to the public at large.

There is a large area of the very best land of the Dominion devoted to the growth and production of fruit; and, inasmuch as fruit is a perishable article, it is of the very greatest importance that it be placed in the hands of the consumer with the utmost possible despatch, and under the very best conditions. In order to do this successfully, the express companies operating over the railroads of Canada are made use of to a very large extent. It has been found that there are many difficulties in the way of making the best use of this service, one of the chief of which is the high rates charged for transporting fruit in this manner. Relief has been sought from time to time from the companies directly, and with very poor success.

Inasmuch as your Government in its wisdom has instituted a Board of Railway Commissioners for the purpose of adjusting matters of difference relating to the question of transportation, and inasmuch as the express companies operating in Canada have not as yet been placed under the control of the Railway Commission, we desire to make an urgent request that such legislation be enacted at this session of Parliament as will result in bringing the express companies under such control, thus providing a speedy and effective means whereby differences arising between these companies and the general public may be adjusted properly.

And as in duty bound your petitioners will ever pray.

A. E. Burke, chairman; Martin Burrell, Wm. H. Bunting, D. Johnson, Ralph S. Eaton, J. E.

Armstrong, M.P.; A. A. McIntyre, M.P.; J. T. Schell, M.P., committee.

Mr. D. Johnson, of Forest, Ont., detailed the disadvantages the fruit interest and other interests labored under, and asked for relief. W. H. Bunting, of St. Catharines, stated that Ontario was united in this demand, and cited cases of very great hardships from overcharge and defective delivery. W. L. Smith, of the *Weekly Sun*, wanted the legislation now, as the case was one of long standing, and the patience of the people was sorely tried. R. S. Eaton spoke for Nova Scotia, where three companies operated, and a through rate was not obtainable, to the detriment of trade generally, and the total undoing of the small fruits trade. Mr. Burrell, of B.C., made a strong plea for the matter of the memorial, showing how the railways and express companies were banded together, and the necessity of a court of appeal in the case of the latter thus made all the more urgent.

In reply Sir Wilfrid said that he was delighted to meet this important delegation. He did not know why the express companies were not subjected to the Railway Commission in the original bill. There must have been some reason. However, the delegation had made out a good case and had his sympathy. He would not like to promise legislation, however, at this session; he wanted it to be short. The memorial would not be forgotten, and in one thing at least he would assure immediate action; he would notify the companies of the complaint and represent to them the cases of over-exaction cited. More than this it was not necessary to say, except that he was in thorough sympathy with the delegation, and hopeful of helping it. Rev. Father Burke then thanked the premier for receiving them so cordially, and giving them so reassuring a reply. All retired satisfied that good work had been done.

Prince Edward Island Letter

Rev. Father A. E. Burke

NOW that we know just where Canadian horticulture is at, after conferring together in the best of feeling at Ottawa, and comparing notes in all the operations for which the name stands, it behooves us to get to work in our respective provinces and keep up with, if we cannot really get ahead of, the procession. We are happy down here by the sea (although nothing boastful shall as much as suggest itself to us) in the reflection that after all, about everything we contended for came our way.

It is really remarkable how uniform the horticultural mind of Canada is after all. Whoever thought of reaching a grade decision without a dissenting voice? Who could imagine a vote in a national council on the barrel package with only two or three nays? The whole thing is rather too Utopian to be classed among the actual. And still this same unanimity will greatly help the work we have in hand.

To tell the truth, we would just as soon have seen the grades made Nos. one, two, and three, No. one being perfect, as now we have "Fancy" but this classification seemed to please better, and we had to stand together. A No. one Canadian apple should be perfect. It will come to that some day. At any rate it is well to have a perfect fruit somehow, so that a purchaser of prime fruit, paying the highest price, at home or abroad, may have what he bargains for or get redress easily.

As I said, we were putting our No. ones up here as perfectly as the fancy grade. The small consignment of Senator Ferguson's apples, mention of which I made the opening day of the convention, is in a line with this statement. I may as well give the document here which W. W. Moore, Chief of the Markets Division, had just put in the owner's hands. It is as follows:

"Yesterday I received a report from Mr. Davis, our inspector at London, on the apples landed by the SS. 'Montezuma' which arrived at London from Halifax on February 16. In the course of his report he makes the following reference to your shipment: 'D. Ferguson, P.E.I., 136 bbls. Ben Davis. This parcel was the best example of honest packing that I have seen. The barrels opened clean, the fruit being free from frost or spot, and the uniformity of putting up the fruit reflects great credit on the packer.' It is not very often that I have the pleasure of reading such a gratifying report on Canadian apples, and I sincerely trust that the returns for this highly creditable shipment will be entirely satisfactory to you."

Before long this will be the rule not the exception, and the Markets Chief will cease to

marvel when a P.E.I. shipment reaches London in such prime condition. By the preaching of the profession at Ottawa, and surely it will practise what it preaches, one may well look for a strict and generous conformity to the grading proposed. Uniform packing of uniform fruit in a uniform package should carry Canada as an apple producer proudly before the world.

We were personally acquainted with many of the delegates to Ottawa, and knew the rest by reputation. It was a great pleasure to work with such a school of patriots, whose singleness of purpose, high ideals, and splendid charity could be but a reflex of the refining influence of the great science they so loyally espouse. Many national gatherings we have attended; this was the "most lovable—the most practical."

CROP PROSPECTS

In this province the fruit trees have suffered no injury that I know of in the past winter. The damage of a previous snow blockade may be more perceptible than after the banks disappeared in 1905, but for the most part there is little injury from this source, where any attempt at repair was made.

The surprisingly balmy atmosphere of Feb. has not resulted in any injury to the blossom buds, as was anticipated. Even the cherry buds look undamaged. Mice have not got in any of their work either. Greater care is now taken, and anyway, there appears little trace of them in the still slightly snow-covered corners of our orchards.

There appears to be a good show of blossom buds; and as last year was an off crop with us, we may, in the ordinary course of events, expect a full crop this season. Back-killing, as all can understand, is noticeable nowhere after so mild a winter. P.E.I. trees have come through splendidly and should give a good account of themselves.

Fruit Trade in Montreal

E. H. Wartman, D.F.I.

The apple is the favorite fruit, but the man of small means in this city can take only a passing glance at some of our varieties. Spy is the leader at 70 cts. a peck, or 40 cts. a doz. However, there is a cheaper class with the taste of apples that can be bought at a more moderate rate. These satisfy those persons who will not resort to other fruits.

Some in the trade say: "How short-sighted we have been! When we could have bought No. 1 apples at \$2.50, we said no." They have

been sorry ever since, as they are paying \$5.50 for the same quality now, and the price is likely to advance to \$7.50 before June. However, we may learn a lesson to benefit us in our future buying and caring for our fruit.

It has been a remarkable season—unusually mild all winter. Still apples never kept better. It was not an unusual thing to turn out barrels of certain varieties on March 1, and not find one decayed specimen. This firmness that has caused such good results must have been due to the season—shower and sunshine when the apple needed it.

Our market is well supplied with oranges, bananas, grape fruit. Strawberries are arriving in limited quantities at 40 cts. a qt.

Our Letter From Nova Scotia

G. H. Vroom, Middleton, N.S.

In 1904-5 the winter was very severe, and deep snows covered the ground from Nov. until the end of March. This was a great benefit to the grass land, and insured an abundant crop of hay. It was not so good, however, for the fruit trees. Mice worked under the deep snow and destroyed the tender bark of the young trees, and hundreds were lost in this way. The heavy snows piled on the branches of the large bearing trees, and many splendid orchards were injured very much.

The winter of 1905-6 has been very different. The falls of snow have been very light. In fact, only on a few occasions has their been enough for sleighing. Alternate freeze and thaw has been the condition of the weather. I have been watching the effect of this on the fruit trees, and have gone carefully over a large number. Up to date I can see no bad effects. There are no signs of winter killing, and there is an abundance of blossom buds which look healthy and strong, and indicate a full bloom this spring. It is within the bounds of reason to expect N.S. to export over 500,000 bbls. of apples this coming season.

Mice have done little or no damage to young trees. In fact, it has not been a favorable winter for them to work on account of there being no snow to shelter them.

There seems to be a strong feeling among fruit growers to produce a higher class of fruit in future, and pack it better than in the past. This is laudable, for there is great need of improvement in N.S. There is, also, a growing interest in spraying, and it will be carried on extensively in the Annapolis Valley this spring. I understand the spray pump vendor has been doing a good business. Pruning is being attended to, but the weather is too cold and the soil too wet for cultivation. There are, perhaps, 3,000 bbls. of apples in N.S. for export yet. These are Nonpareil.

Preventing Potato Rot

Ed. THE CANADIAN HORTICULTURIST:

In the December number of your paper I notice an article entitled "Results of the Potato Rot." The article I mention tells of the prevalence of the rot in Ontario, and the great loss resulting therefrom. All of this is true, but in the article there is a statement with which I take issue. It is the plea that the farmers of this Province must learn to use more commercial fertilizers rather than barnyard manure to prevent rot. I have read also in articles from other writers that barnyard manure was the cause of "scab."

I have only an acre of land, and the most of that is in fruit, but I always try to grow my own potatoes (being part Irish). There are two plots of land on which I have grown them alternately except the last two years. The dividing line between these two plots is a row of grape vines. Part of the ground has had three crops of potatoes. It takes a bushel of potatoes to plant these plots, that is, I plant one bushel each year. Every year I manure the ground

with barnyard manure—all we can possibly plow in, for as I keep a horse and a cow I have all I know what to do with. The last two years the potatoes have been on the south side of the row of vines, and on the south side of this potato patch is a row of large apple trees shading part of the land, and up the centre is a row of plum and cherry trees and a grape vine. This row used to be all plums but some of the trees were frozen out during the winter of 1903-04. Notwithstanding all these things being against securing a good crop, I had 12 bushels of fine saleable potatoes and a barrel of small ones and those with green ends. Only two rotten potatoes were found in the patch.

I attribute the absence of rot to the sprayings that I gave them. They were sprayed with Bordeaux on the following dates: June 20, July 5, July 10, July 21, Aug. 7, and Aug. 23. They were of the American Wonder, Delaware, and one of the Carmens, the No. of which I do not know, varieties. The Carmens were best in yield but a little rough; all were of good quality but Delawares were best.

The point that I wish to make is that since the ground was manured heavily every year for the last six years, why did not these potatoes rot or scab, if barnyard manure causes these troubles? I still have them in my cellar except those we have used and there is no sign of rot. I firmly believe that it was the spraying that saved them, for other patches on each side where nothing was used except a little Paris green for the bugs, were very badly affected with rot.

J. FRED. SMITH,

San Jose Scale Inspector,
Glanford, Ont.

Toronto Growers Meet

That the interest of the Toronto vegetable growers in their organization is not waning was shown by the large attendance and the interesting discussions that took place at their meeting at the Albion Hotel on April 7. Glass in its relation to outdoor work was discussed by H. E. Reid; Jas. Dandridge dealt with the best method of growing early potatoes; and the most satisfactory handling of tomatoes for an early crop was taken up by Jas. Gibbard, Sr.

It was claimed by Mr. Reid that the chief drawback in attending to greenhouses in connection with outside gardening is the difficulty of securing labor. For the greatest profit, he said, attention should be given to glass. When the two are run together the outside rush commences when the crop from the houses is ready for market, and in many cases it is not put on the market in the best condition. It is only by strict attention to the minor points that a profit can be reaped from greenhouse crops.

For producing early potatoes Mr. Dandridge explained that his seed is started in the hot bed or in the greenhouse about April 10. The potato sets are placed close together and covered with light loamy soil. The buds on the bud end, or on the end opposite where the roots are attached, commence growth more readily and are the best for an early crop. If started in a hot bed or greenhouse they have buds 1 or 1½ in. long, and a mat of fibrous roots by May 1, at which time they can be put in the field. He recommended planting them 12 in. apart in rows 30 in. apart, and covering them with 3 in. of soil. The early Ohio was mentioned as being the best variety for early crop.

Suitable soil was mentioned by Mr. Gibbard as a chief requisite in producing early tomatoes. Plants set on dry loam produce fruit at least two weeks earlier than those on heavier soil and wetter location. Earliana and Earliest of All were mentioned as two of the best varieties. Mr. Gibbard said that the seed should be sown in flats about Mar. 15, and the young plants pricked off to other flats as soon as they are large enough to handle. Before the plants become spindly they should be pricked off again to individual berry boxes and put in the cold frame. About June 1 the plants should be set in the field in rows 4 ft. apart

and 12 to 15 in. apart in the row. Each plant is supported by a lath, and all side shoots picked off. When the plant reaches the top of the lath the tip is nipped off. Shoots should be removed and the tying attended to at least once a week. It was claimed that this method would result in ripe fruit 10 to 14 days earlier than could be had from the old system with the plants lying flat on the ground.

Owing to a rush of work on the market garden during May and June, the members decided not to have meetings during those two months. The next meeting will be held July 7. The executive will arrange for speakers and subjects for that date, and also will arrange details for their annual excursion early in Aug.

Hamilton Growers Meet

The membership of the Hamilton branch of the Vegetable Growers' Association has increased beyond 50. At a recent meeting W. A. Emory was appointed to act with R. H. Lewis on the provincial board. Sec. Stevens wrote THE HORTICULTURIST that the membership would soon entitle them to three directors.

Quotations from basket manufacturers in New York showed that the firm could not supply 11 qt. bskts. Owing to the lateness of the season they claim it will be impossible to have the larger baskets laid down as cheaply as the 6 qt. bskt. The association decided not to place an order with the firm. A committee was appointed to consider the advisability of forming a joint stock company for the purpose of manufacturing baskets for the members.

Two canning factory promoters were present and asked the growers to take stock in a new company to be known as The Producers' Canning Co. No stock had been subscribed, and the members decided to go no further than to promise a supply of first-class produce if the factory was put in operation.

At a meeting on Apr. 17, Sec. J. A. Stevens was appointed purchasing agent. This has resulted in a saving of 9% to members on their baskets, and should help to swell the membership. Since this step was taken several growers have joined.

Fruit Conditions in Lambton

D. Johnson, Forest, Ont.

In Lambton County there are hundreds of acres in fruit made up principally of small orchards containing from one to 10 acres each. The greater part of the fruit is grown in the north along the south shore of Lake Huron and in the vicinity of Forest, Thedford and Arkona. In that section some have gone extensively into apples, plums, pears and berries, and these, when properly cared for, have proved to be very profitable. Peaches have been found profitable in the neighborhood of the lake. Such varieties as the Alberta, Smock, Rareripe and St. John suit best. Lambton orchards have so far escaped the ravages of the San Jose scale, but are badly affected with fungus diseases such as blight and spot. These pests greatly reduce the value of the fruit every year, unless carefully sprayed. If Bordeaux mixture is intelligently applied excellent results follow. However, many of the farmers are discouraged with their orchards, and look upon spraying as an added expenditure, although the returns do not warrant it. When they have a crop there is no demand, they say, and when there is a demand they have no fruit.

The greatest stimulant that could be given the fruit growers here, or elsewhere, would be a good market. If the Government would spend some of the money in helping the fruit growers to get in touch with the consumers instead of lavishing it upon railroads, they would greatly help an industry that would be a credit to the country as well as a source of great revenue to the railways, which would, at the rates now charged, reap almost as great a reward from the labor and skill of the fruit grower as the producers themselves.

Fruit Meetings in the Niagara District

THE Niagara Peninsula Fruit Growers' Association held its annual series of public meetings during the last week in March. Meetings were held in Beamsville, Jordan Station, St. Davids and St. Catharines. The association was fortunate in securing as chief speakers the services of Mr. J. S. Woodward, of Lockport, N.Y., and Mr. Willis T. Mann, of Barker, N.Y., both of whom are well-known authorities and pleasing speakers.

SPRAYING

One of the most interesting addresses of the series was Mr. Mann's talk on spraying. "It is a profitable operation," said the speaker. "We cannot raise fruit without it. Spraying is absolutely essential to success. To spray intelligently, fruit growers should know something about the life history of the insect or the disease that he intends to combat."

The standard fungicide is Bordeaux mixture. Mr. Mann's formula is $3\frac{1}{2}$ lbs. copper sulphate, 6 lbs. lime, 40 gals. water. An excess of lime is used to prevent injury to foliage. The old formula in old conditions was effective without burning; now, new conditions and new methods of application have changed the effect on the foliage. The reason for this is not definitely known. It is supposed that the extreme fineness of the spray produced by power sprayers has a more intense effect on the foliage. The Geneva expt. station is conducting experiments along this line. The Bordeaux mixture is used for all fungous diseases, although for peach leaf curl the lime-sulphur wash is just as effective.

The lime sulphur wash is the best yet for the San Jose Scale. "I believe the San Jose Scale is a blessing in disguise," said Mr. Mann. "It can be controlled by the industrious man, while the careless grower will be crowded out of the business. This will elevate the standard of the fruit industry, and of the people connected with it."

APPLE CULTURE

In an address on "Apple Culture" Mr. Mann quoted statistics to show the relative positions of the various states in the production of apples. New York state produces more fruit per tree than any other apple-producing state. This is due to the fact that improved methods in culture and care are more generally adopted in that state than in others.

The practice of spraying increases both the price of the fruit in an orchard and the value of the orchard itself. The market demands good fruit and buyers quickly pick up a good article at a remunerative figure, and they enter the districts where good apples are grown and compete with each other in buying. To-day in planting orchards there have been radical changes made in care and methods of culture. Mr. Mann's system is to get two-year-old nursery stock of medium height (not large), well rooted, head about $2\frac{1}{2}$ ft. from the ground, allow the various branches to remain, prune very little, just enough to shape the trees, give thorough cultivation, spray systematically. The orchard he plants on the filler system, the desired distance of trees apart for certain varieties is 40×44 ft., so by filling in between with other varieties makes the trees 20×22 , the intervening trees are cut out when the trees commence to meet and crowd by this system. He has an orchard, seven years planted, which has produced crops for three consecutive years, and which last season produced 600 bush. on eight acres. Excessive pruning when the trees are small tends to produce wood growth. Then, when trees are large, low heading is practised by keeping the trees pruned back at the top as the tall apple orchards cannot be effectively sprayed and leave a margin of profit.

Mr. Mann advocates planting standard varieties known to be adapted to the particular locality where the orchard is to be planted.

Besides these he mentions Spitzenburg, a choice variety that has been discarded in some districts because not properly cared for. It is one of the finest apples when looked after as it should be in the matter of spraying, pruning, etc. Boiken, a newer apple, is also a valuable variety. It is an early and regular bearer, and when stored is free from scald, a serious warehouse trouble with most varieties of apples.

During the series of meetings Mr. Mann also delivered a valuable address on the "General Principles of Fruit Growing." This address will be published in a future issue of THE HORTICULTURIST.

ORCHARD COVER CROPS

In an address on the "Necessity and Value of Cover Crops," Mr. J. S. Woodward referred to the enormous quantity of plant food taken from the soil by crops of the different classes of fruits. Such a tax on the land should be returned by the use of some sort of fertilizing material. The most economical means of doing this is the use of cover crops. Hairy vetch is one of the best crops of this kind but the seed is expensive. It is a rapid and heavy grower and assimilates more nitrogen per acre than any other legume. According to experimental data, it has been shown to be worth \$43 per acre. About 30 lbs. to the acre makes a good thick cover. Mammoth clover is worth \$23 per acre, and is second in value to hairy vetch. Besides increasing the amount of nitrogen in the soil, these crops are valuable to protect the roots in winter, to improve the texture of the soil, and to hasten maturity of the woods of trees in the fall. Neither hairy vetch nor mammoth red clover will do well on a "sour" soil. To determine whether a soil is sour or not, use Litmus paper. Soils that are acid or sour may be improved by the use of lime. Oats and rye may be used as cover crops on soils that are already over rich in nitrogen.

Potash and phosphoric acid, also, should be added to the soil as they are required in the building up of plant tissues and in producing high color, flavor and body in the fruit.

Mr. Woodward spoke in an interesting manner on "The Leaf; its Office, its Importance, and How to Keep it Healthy." A leaf is very highly organized. A study of this organ is of

practical value to the fruit grower. By means of illustrative charts Mr. Woodward showed the mechanism of the leaf. He showed how the leaf does work for the whole tree or plant—how it breathes and how it absorbs and digests plant food. Out of crude materials it makes food and it cannot do this unless in contact with sunlight.

The leaf must be kept healthy. When it is diseased both the stomach and the lungs of the tree are effected and the tree cannot produce fruit. When the leaf is covered with fungi it should be treated with spray mixtures. When the leaf appears yellow in color, the tree needs nitrogen. Other conditions indicate a want of potash and phosphoric acid. The leaf and the tree must be given these constituents, through the roots, by the use of cover crops, commercial fertilizers and barnyard manure.

THE IDEAL PEACH ORCHARD

This topic furnished the subject matter of another address by Mr. Woodward. He said that successful peach culture depends first of all upon the location. The St. Catharines district is particularly favored in this respect. An ideal soil must be chosen also, and that is one of sandy nature, well drained but retentive of moisture. The trees should be set out when one year old and cut back to a foot or a foot and a half from the ground. Low-headed trees are best for purposes of spraying and harvesting. The work of fighting the San Jose scale is lessened when the trees are headed low.

The trees should be planted 20 ft. apart. This facilitates the work of cultivation, pruning, spraying, etc., and it allows the sun to get in. A peach orchard must be looked after. A man who neglects his orchard for one year had better tear it out and begin again. It will never make up for the loss occasioned by a year's carelessness. The orchard may be inter-cropped with beans or potatoes for two years but not longer.

Mr. Woodward pointed out that it is unwise to allow a peach tree to overbear. There is as much of a strain on a tree in bearing small peaches as large ones, as it is forming the pit that saps the strength of the tree. Peaches should be thinned in June, when the newly formed fruit is about the size of the end of a person's thumb.—A.B.C.

Bulletins for Fruit and Vegetable Growers

DURING the past few weeks numerous bulletins and reports have reached THE HORTICULTURIST from the different colleges and experiment stations in America. They contain valuable information for the fruit grower or the market gardener. Lack of space prevents us giving a full review of each, but a brief outline will show our readers their value. Those who wish to secure them for reference can, in most cases, have them by writing to the college or station from which they are issued.

VERMONT BULLETINS

Bulletin 119 of the Vt. Expt. Station discusses the occurrence of plant diseases throughout that state during 1905. Apple scab and pear blight, brown rot of plum, bacterial diseases of vegetables, including the early and late blights and the potato rot are dealt with fully. Preventives and remedies are discussed in each case. In this bulletin lettuce culture is outlined, and the results from crops grown in flats compared with those grown on benches. Experiments have shown that a greater net profit can be secured from closely planted lettuce than from that given sufficient space to develop into full sized plants.

Bulletin 120 gives the results of experiments in planting white pines. It has been shown that this tree is very profitable for forest planting under most conditions. Bulletin 121 deals with the laws governing the sales of commercial fertilizers in that state. Tables showing the amount of available nitrogen, phosphoric acid, and potash in the various brands put up by the different manufacturers, are given.

The susceptibility to rot of potatoes is dealt with in bulletin 122. Experiments have been conducted to show the resistance of vines to blight and tubers to rot and to scab. Careful notes were taken during the experiments regarding the conditions of the soil and the cultural methods adopted.

THE PENNSYLVANIA STATION

Bulletin 76, from the State College, Centre County, Pa., contains an outline of experiments conducted in testing varieties of potatoes. Before planting the tubers were treated for scab with a solution of two oz. corrosive sublimate to 16 gal. of water for $1\frac{1}{2}$ hours. The best early maturing varieties included Eureka, Early Norwood, Pride of Michigan, Freeman, and Six Weeks. Some of the best late matur-

ng varieties were Delaware, Admiral Dewey, Maggie Murphy, and White Mammoth.

SCALE TREATMENTS IN OHIO

The results of treating San Jose Scale with sulphur sprays and other compounds are given in Bulletin 169 of the Agri. Expt. Station, Wooster, Ohio. It has been shown that careful straining and application as quickly as possible after the mixture is prepared, is essential to effective treatment. The size of the trees and the condition of the bark proved to have much to do with the success in controlling the Scale. The mixture that gave the best results was composed of 15 to 20 lbs. of lime and 15 lbs. of sulphur in enough water to form a thick liquid, and afterwards diluted to make 50 gals. Spring application is the most advisable, but if it is impossible to do the work at that time, a fall spraying is recommended. In cases of extreme infestation both spring and fall sprayings are advised.

PRUNING EXPERIMENTS

Bulletin 8 of the State Horticultural Society, Madison, Wis., in discussing the best methods of pruning orchard trees, says that to prune intelligently it is necessary to be acquainted with the principles of plant growth. These principles are fully outlined. The difference between fruit buds and leaf buds and the healing of wounds in fruit trees are explained. Pruning young trees and renovating neglected trees, as well as the most desirable season for pruning, and the most efficient pruning tools, are treated.

BULLETINS FROM NEW HAMPSHIRE

The Gypsy Moth, which has been a source of trouble in New Hampshire, is dealt with in Bulletin 121 of the Agri. Expt. Station at Durham, N.H. Striking illustrations are used in connection with the life history of this insect, and general remedies suggested. Bulletin 123 comprises a report of fertilizer inspection conducted at that station during 1905. Out of 105 brands sampled and analyzed, 27 failed to equal the guarantee in one or more ingredients, while in all but nine a lack of one element was made good by an excess of another. Tables showing the amounts of nitrogen, phosphoric acid and potash are included.

MICHIGAN BULLETIN ON INSECTS

Bulletin 233 recently issued by the Mich. Expt. Station at Lansing, is one of the most exhaustive works on insects of the garden in print. The garden crops are arranged alphabetically with the various insects attacking each crop placed in order under each division. The different stages of the numerous insects are clearly illustrated by drawings and cuts. Life histories, preventives, and remedies, are given for each pest. Every gardener should have this bulletin for reference.

DELAWARE BULLETINS

Experiments conducted at the Delaware Expt. Station, Newark, Del., regarding the relative efficiency of dust and liquid spraying, are outlined in Bulletin 72. The advantages and disadvantages of dust sprays are discussed. The formula used for the latter was superfine limoid, 100 lbs.; pulverized copper sulphate, 2 lbs.; Paris green or green arsenoid, 2 lbs.; and sulphur, 2 lbs.; while in the liquid sprays Bordeaux mixture and Paris green were used. The results showed that the liquid spraying gave slightly better results, Paris green in liquid leaving 3.4-10% of wormy fruit in the total yield, and in dust 4.4-10%. The green arsenoid in liquid resulted in 4.3-10% wormy fruit, and in dust 7.3-10%. It is recommended that on level ground the liquid spraying outfit be used, but on hilly ground or where rapid and thorough work is desired the dust spraying may be practised with good results. In large orchards a combination of the two is suggested.

Some experiences with insecticides for San Jose scale are outlined in Bulletin 74. Lime, sulphur and salt washes and soluble oils, such

as Scalecide and Killoscale, and kerosene emulsion were experimented with. The lime sulphur and salt gave satisfactory results when applied late in the fall and early in the spring. The soluble oils produced varying success. The kerosene emulsion with soap as an emulsifying agent was effective.

ILLINOIS BULLETINS

The possible profits from the farmer's vegetable garden are discussed in Bulletin 105 of the Agri. Expt. Station, Urbana, Ill. In 1900 half an acre was selected on which to grow an assortment of vegetables suitable for the farmer's garden. The vegetables were arranged in the order of their planting so that the unplanted portion could be harrowed to keep it free from weeds and to supply moisture after early crops were harvested the later crops were put in their steads. The same general plan was followed for five years with varying results. The net profits for each year from 1900 to 1904 were: \$51.78, \$33.41, \$93.35, \$84.63 and \$111.08, or an average net profit for the 5 years of \$74.85. This excellent bulletin contains a plan of the garden with the space devoted to each crop, the cultural methods followed, and a full account of expenses and returns for each year's operations.

Bulletin 106 discusses the relative merits of dust and liquid sprays for the apple orchard. Experiments under different conditions and with the various orchard pests showed that liquid sprayed trees produced fruit of better quality. The dust spray proved to be 52% cheaper, and was much more readily transported about the orchard, but it had no other advantages.

A CORNELL BULLETIN

The blight canker of apple trees is well illustrated and fully described in Bulletin 236 of the Cornell University, Ithaca, N.Y. After experimenting to find out the best treatment for this disease it was decided that cutting out the cankers with a sharp knife and swabbing the wound with a weak solution of corrosive sublimate (one tablet to one pint of water), or with a 3% solution of copper sulphate (one oz. to two gals. of water), and a thorough painting with heavy lead paint after it dries, was the most effective remedy. It is advised that this work be done early in the season to prevent the spread of the canker, and to allow the wound a long period in which to heal. Preventive measures are discussed. Wolfe River, Talman Sweet, Pewaukee, Red Astrachan, Tetofsky, Grimes Golden, Wine Sap, and Fameuse, are mentioned as the varieties that are most resistant to this disease. The more susceptible varieties are Baldwin, Ben Davis, Mann, Hubbardston, Fall Pippin, Stark and Greening.

BULLETINS FROM GENEVA

In Bulletin 227 of the New York Agri. Expt. Station, Geneva, N.Y., experiments have been conducted with a destructive apple rot that follows the apple scab. The results of these experiments showed that the disease could be held in check by a thorough spraying to prevent the scab, and by discarding all fruits that show any signs of the disease when the fruit is being picked and sorted. It is advised that the fruit be stored in a dry place with a temperature below 45 deg., as soon as possible after picking. Cold storage retards the development of the fungus, but the spores begin growth when brought into a warmer atmosphere.

A report of analyses of samples of fertilizers collected from different farms is published in Bulletin 272. The quantity of nitrogen, available phosphoric acid, total phosphoric acid and water soluble potash in 100 lbs. of the fertilizer are given for each brand.

Experiments were conducted in treating San Jose scale with sulphur washes, kerosene mixtures and Scalecide. The lime washes proved satisfactory, but the results did not show whether or not there was danger of injuring

the tree by applying the spray in the fall. Kerosene emulsion proved unsatisfactory, and experiments will be conducted to determine if a safe and efficient combination of the lime and oil can be made. Trees treated during the dormant season with Scalecide were free from living scale during June, July and early Aug., but with weaker preparations living scales were noticed during the latter part of that month. Applications containing 3% of Scalecide had little or no effect on the pest.

Government Help Wanted

D. Johnson, Forest, Ont.

During the last few years a great deal has been said about the co-operative movement among fruit growers. The hope is frequently expressed that the movement may become general, as it seems the only practical method of getting farmers to take an interest in their orchards.

Co-operation, however, necessitates greater care and responsibility than the ordinary farmer cares to assume unless he can see he will gain distinct personal advantage by so doing.

Fruit growers contemplating such a step meet with the opposition of the local dealers who, seeing their business in danger, discourage the growers in every way possible from co-operative action and usually succeed in getting the growers to sell their fruit to him, when he walks off with a large part of the profit that belongs to the producers.

Such being the evil influences exercised against the co-operative movement, I believe the associations have a right to ask that fruit growers undertaking co-operative work in the right spirit should be given assistance. A man thoroughly acquainted with the circumstances should be sent by the government to the British markets, where he would in public and in private explain to the trade there the advantages of buying direct from the central packing houses in Canada. The pack of the association could be assured by strict government inspection, so that any brand recognized by the provincial association would be a sufficient guarantee of honestly packed fruit.

If a man such as Mr. Sherrington of Walkerton, if he would undertake the work, was for a time stationed in England, much good would result, as he has already done more for the co-operative movement than any other man in the province.

An effort in this way on the part of the government, would be of great value to the movement and would encourage those who have taken a leading part in pressing forward the work.

If a good market is assured the fruit growers who co-operate, they will be quick to avail themselves of the opportunity for organization. Orchards that are neglected now would flourish through the application of the intelligent care they would soon receive once a market was opened for their product.

Mark Packages with a Stencil

A. McNeill, Chief Fruit Division, Ottawa

Question—Will a lead-pencil or a tag meet the requirements of the Fruit Marks Act in marking barrels and boxes?—Apple Shipper.

Answer—The Fruit Marks Act requires that the name and address of the packer, the variety of the fruit and the grade of it shall be marked in "a plain and indelible manner" on all closed packages. A lead-pencil is usually not "indelible," and is very seldom "plain." While it would be wrong to infer that a pencil could not under certain circumstances be used it is much better, quite apart from the Fruit Marks Act, to mark every box and barrel of fruit with a stencil, or, in some cases, with a rubber stamp. A tag is so easily detached that it could not be accepted as marking the package in an "indelible" manner. The marks must be placed on the package itself with a stencil, or in some way so as to make them permanent.

The Province of the Proposed Experimental Fruit Farm*

IN the course of my interviews with fruit growers during the past few months I have had occasion to secure many expressions of opinion on the matter of an experimental fruit farm or horticultural college for the Niagara district. Ninety per cent. of the growers are anxious to see an experimental farm established somewhere in the Niagara peninsula and established soon. Opinions differ as to the proper location; some think that the industry is of sufficient importance to warrant the establishing of a fully-equipped, combined horticultural college and farm; an infinitesimal few express the other extreme and contend that neither a college nor a farm is necessary as they know it all now. A few brief notes on a few of the many expressions of opinions that I have recorded may indicate the feeling of growers in general.

"We require a fruit experiment station owned and managed by the government," said Major F. M. Carpenter, Fruitland, "and it should be large enough to test varieties on an extensive commercial scale. Varieties should be grown in quantity so that the consuming public may pronounce upon merits of variety from their viewpoint. Among other things, an effort should be made to produce better shipping varieties of black grapes. Standard varieties, like Concord and Worden, are thin skinned and crack in the basket, and black Rogers are unproductive. There is room for improvement in grapes for long distance shipping."

Mr. J. W. Smith, Winona: "We need an experimental fruit farm in the Niagara district, and it should be located in a section extending from the flat of the mountain to the lake, where different types of soil can be secured. The Dominion Government should bear part of the expense. Experts should be employed to devote their whole time and attention to the work. We feel that the horticultural department at the O.A.C., Guelph, is of little benefit to growers in this district. For this reason a fully equipped horticultural college might be established at a later date in connection with the farm here."

Mr. J. G. Nash, Stoney Creek: "An experimental farm would be of immense value, particularly in the origination of new varieties. Thorough investigation should be conducted along the lines of winter protection for tender fruit trees. I believe that peach buds are often killed long before most people think. They are more often killed in late fall rather than during warm spells in early spring, as is the general opinion. Many varieties of peach buds do not fully mature in the fall, and the first hard frost gets them. Experimental research would teach us how to meet this difficulty."

Mr. F. B. Harvey, Stoney Creek, offered the suggestion that the work of a farm of this nature should not include apples. Experimental work with apples can be carried on at the fruit stations in other parts of the province. By such an arrangement more area, time and expense can be given to the tender fruits that are adapted only to this district.

Mr. A. B. Foran, Winona: "The Department of Agriculture cannot do anything that will meet with such approval amongst fruit growers as the establishing of an experimental fruit farm in the Niagara district. It would benefit not only the grower, but the consumer as well. Growers are annually sinking thousands of dollars experimenting with varieties, most of which are worthless. This work should be done by the Government, and done in a fruit section and by capable men. The experimental work in fruits at Guelph is one of no value to Niagara growers."

Mr. W. W. Beamer, Beamsville, and others, favor the establishing of a horticultural college in connection with the farm. Horticultural

education, both in practice and science, is necessary to insure progress in fruit growing. We should consider the probable requirements of posterity.

Mr. J. W. Brennan, Secretary Grimsby Horticultural Society: "An experimental farm should test the value and action of all kinds of commercial fertilizers on the various types of fruits and fruit soils. Many growers annually spend a lot of money on fertilizers, and oftentimes we do not know whether it pays or not."

Mr. E. L. Jemmett, Beamsville: "An experimental farm in the Niagara district should be located near good transportation facilities for two reasons; first, so that growers and others may visit the farm and observe the operations thereon with the least possible trouble and cost, and second, so that it will be convenient for investigation of transportation problems."

Mr. Jas. H. Walker, Beamsville: "Among the many problems for an experimental fruit farm is the one of packing and packages. We need more definite knowledge along these lines. An experimental farm would be of great value to new settlers in this district, particularly to those who come here unacquainted with our conditions and the practice of fruit growing. It would attract the most desirable class of land buyers, and thereby assist in building up our country. The Guelph institution, from a fruit-growing standpoint, is of little or no value to growers in this district."

Messrs. W. B. Rittenhouse, E. Hipple, J. H. Rittenhouse, and others in Vineland, claimed

that growers have to experiment personally with new varieties and new methods that should first be thoroughly tested at the expense of the Government. An experimental farm could test the novelties offered by nurserymen, and thereby save money to the individual grower.

Mr. C. M. Honsberger, Jordan Station, ex-President Niagara Peninsula Fruit Growers' Association, said: "The fruit industry of the Niagara district is of sufficient importance to warrant the establishing of an experimental fruit farm on a large scale. We need new varieties of fruits for shipping, particularly in peaches and grapes. We need new grapes of the Rogers type, but self-fertile and better bunches. We must have a farm of this nature established as soon as possible. At Guelph it seems that nothing is being done for the benefit of fruit growers except indirectly; the horticultural interests are neglected. We fruit growers would like to know what they are doing at Guelph in horticultural work. This year, as in the past, circulars from that department were sent out offering fruits for cooperative experimenting, but some of the varieties offered have been worked with and experimented with for 50 years. It is only a waste of time to experiment with Concord grapes and Greening apples; these are standard and reliable varieties, and already known by everybody. We want to hear of something that we do not know; we want something new; we want a horticultural department established along up-to-date lines and established in the Niagara peninsula."

Planting and Pruning Currants

A. W. Peart, Burlington, Ont.

CURRANTS thrive on a wide range of soils, but have, however, a preference for a rich, damp, but not wet one. For commercial purposes as well as domestic, the following varieties of red currants seem to fairly well cover the season: Victoria, Wilder, Cherry, Foy's Prolific, North Star, and Prince Albert. The first four mentioned ripen from early to medium; the North Star medium to late, and the last one from late to very late.

Unless the soil is thoroughly drained I prefer spring to fall planting. Often on damp or low soils the young plants, when set in the fall, are heaved out by the alternate process of thawing and freezing in April. It is more satisfactory to plant in the spring as soon as the land is dry enough to work—when there is life in the soil, and its texture is granular. They should never be puddled in as it stunts them.

The plants should be set five or six feet apart each way. A great deal of hard work is saved by ploughing one way a deep furrow in which to place them. They should, however, line each way for cultivation purposes. Plant fairly deep, pruning the young bush so that it will grow into the bush, not the tree form. In other words, a young currant bush should have four or five stems springing from the roots, not one. Should there be only one, and the borer gets in, the entire plant is destroyed.

Growth is accelerated by cutting away the bruised, torn portions of the root. The richest soil should be placed directly on the young roots, and the poorer at the surface. In filling in the soil tramp it reasonably well, leaving a depression of two or three inches around the plant. Cultivation will gradually fill this in and kill young weeds at the same time. The top of the young plant should be cut back to a few buds to balance the root.

Pruning may be done any time after the crop is harvested and before vegetation starts the succeeding spring. Adult bushes should be severely thinned; those stems approaching the ground should be removed, and those making an abnormal growth cut back to give the bush symmetry.

The bushes should be ploughed in the fall for drainage purposes, and the cultivator started in the spring as soon as the soil is dry. This levels the ground, kills weeds and retains moisture. Cultivate both ways and repeat the process every two or three weeks until the crop is ready to be harvested.

Currants are heavy feeders and will quickly respond to careful cultivation and liberal manuring. Well-rotted stable manure supplies not only the sort of food wanted, but also humus as well, which is so desirable in most fruit plantations.

BLACK AND WHITE VARIETIES

Black currants differ but little from red in the mode of handling. As a rule the bushes grow larger and should be planted at least a foot farther apart. The leading black varieties for commercial purposes are: Saunders, Lee's Prolific, Naples, Black Victoria, Collins Prolific and Champion. In white currants the Grape and Imperial take first place.

GOOD TOOLS to cultivate the soil are as necessary for a good crop as good seeds. Many growers are using the same implements their fathers used. To these men we would suggest the use of Iron Age Tools as a means of increasing the value of their crops. Messrs. J. A. Simmers, of Toronto, Ont., will mail you a Catalog containing full information regarding these modern implements if you send them a post card.

NOW IS YOUR CHANCE—THE CANADIAN HORTICULTURIST will be sent to any address in Canada or the United States for four months for twenty-five cents. Send your name in at once and tell your friends of this offer.

I wish to be retained on your mailing list as one who greatly prizes THE HORTICULTURIST. I enclose the name of a new subscriber and will try and send another in a day or so.—S. P. Rowell, Montreal, Que.

*These interviews were secured by A. B. Cutting, B.S.A., while visiting the fruit growers in the Niagara district in the interest of THE HORTICULTURIST during January and February. Lack of space has prevented their publication at an earlier date.

Fruit Conditions in Ontario are Favorable

SPECIAL reports received by THE CANADIAN HORTICULTURIST from correspondents in different parts of Ont. indicate that fruit trees and bushes have come through the winter in excellent condition. Similar reports have been received from the Maritime Provinces. The reports from Ont. are as follows:

EASTERN ONTARIO

Harold Jones, Maitland—"The winter has been favorable to all tree and bush fruits. Apples are coming out in a bright, healthy condition, with fruit buds well developed, giving promise of a full bloom. Plums and cherries promise well, but may suffer by sudden change to a low temperature. Strawberries are looking well, but the acreage is below normal."

W. T. Macoun, C.E.F., Ottawa—"Apple trees apparently have come through the winter well, and promise a medium to good crop, judging by fruit buds. Pears, plums and cherries are not grown to any extent. Currants, raspberries and gooseberries came through the winter well, but strawberries were badly injured, and will be a light crop. Grape vines are still covered.

"There is no special boom in planting, and no large plantations are being made. The McIntosh and Wealthy apples are the popular varieties."

Elmer Lick, Oshawa—"Indications point to a good crop of fruit of all kinds in Ontario county. No winter-killing. Plenty of fruit buds on apple trees. There has been a very large increase in oyster shell back louse in many orchards. There do not seem to be very many new plantations of any varieties of fruit."

NIAGARA DISTRICT

A. W. Peart, Burlington—"Indications are that fruit plantations generally have come through the winter in good condition. With the possible exception of a few of the more tender varieties of peaches and Japan plums, fruit buds appear to be sound and normal. On low, undrained ground strawberries have been damaged by heaving. The prospects are for at least an average crop of fruits.

"Some planting will be done chiefly along the lines of strawberries, pears and cherries. Increased attention is being given to spraying and the better care of orchards."

Linus Woolverton, Grimsby—"The fruit buds give a fair promise of an average crop. Peaches were a heavy crop last year, but nevertheless give a fair promise for this season. Apples will be a full crop. Pears and plums will be above the average. Raspberries show well, but the acreage has been lessened on account of low prices. People here are annually planting a large additional acreage of grapes, peaches, pears and small fruits. Plums are not being planted because of low prices. Very few Japan plums are planted, because of their inferior quality."

ESSEX COUNTY

The outlook is for a full crop of cherries, plums, pears, apples, and every peach tree of bearing age is full of fruit buds, and if weather conditions are favorable, there will be an abundant supply. The fruit growers are very busy spraying for fungous diseases, San Jose Scale, etc., using the lime sulphur wash.—E. E. Adams, Leamington.

Vegetable Conditions Throughout Ontario

REPORTS received from the correspondents of the Ontario Vegetable Growers' Association, located in different parts of Ontario, show that there has been a marked increase lately in the amount of vegetables grown under glass, and that the acreage in several lines of vegetables this year will be considerably increased. The association is anxious to secure more correspondents in the principal vegetable producing sections and is willing to pay for short monthly reports. The help of growers in making these reports valuable is asked. The following reports were written between April 20 and 24:

OTTAWA

"Cabbage and other winter stock are a drug on the market. Radish and lettuce sell for 40c. for first quality, and seconds about 25c. per doz., and market pretty well supplied. Strawberries badly winter-killed. Weather cold again and no planting or sowing done yet."—F. Williams.

"No outside work has been done. March was a very bad month for hotbeds. Everything is backward, but favorable weather will soon change that. The general plans seem to be for the usual crop, but much also depends on the planting season. The market is overdone with lettuce, as supplies are being shipped in and the local hotbed crop, also, is ready. Quantities of local green onions are on hand; also radish and rhubarb, the supply exceeding the demand. There has been very little change in the amount of vegetables grown under glass during the winter, but the quantity of glass used for the spring crop has more than doubled."—T. Mockett.

NAPANEE

"From data obtained from the canning factory the vegetable crops in this section will be about as follows: Tomatoes, 200 acres; sweet corn, 160 acres; peas, 60 acres; beans, 47 acres."—E. M. Sherman.

TORONTO

"It is too soon to report the prospects, as we have scarcely started to plant, and we cannot even guess at what we are going to have. With regard to the greenhouse work, I may say there has been a marked increase in greenhouse work. Within about half a mile of me, about 10,000 feet of new glass has been erected this year and a great deal more farther afield. Lettuce, I believe, is the principal crop grown in the new houses, but the demand seems to increase with the increased production, as there has been a ready sale right through the season."—C. Gibbard, Doncaster.

NIAGARA FALLS SOUTH

"Asparagus, green onions and rhubarb about a week or 10 days ahead of last year; first outdoor grown sold this week. Planting of early potatoes and peas general. Sowing of onions, carrots, beets, and other seeds in full swing. The ground is dry and works up nicely. Lettuce and cabbage are being transplanted outside extensively. All tender vegetables under glass owing to the open winter about 10 days ahead of last year. Tomatoes and onions will be less freely planted than last year by at least 25%. Several new greenhouses have been erected. All greenhouse stuff selling well and in good demand. Commercial fertilizers are more extensively used than ever before."—Thomas R. Stokes.

ESSEX COUNTY

"Tomatoes are growing very well under glass. Apparently there will be an increase of 25% in the plantings. Some of the larger shippers are increasing their acreage, and some new men are starting in a small way, while some who grew them last season are out of it. Early cabbage is being planted in the fields; an increase of about 25% in this crop is likely. Wax beans will be in small supply. Red and green peppers will be grown in about the usual quantity, which

Classified Advertisements

Advertisements under this heading will be inserted at the rate of ten cents per line, each insertion; minimum charge fifty cents in advance.

LANDSCAPE GARDENING, PLANS FOR PARKS, cemeteries, public and private pleasure grounds made. Drawings made to a scale, so that any gardener may carry them out. Correspondence solicited. CHAS. ERNEST WOOLVERTON, Landscape Designer, GRIMSBY.

WANTED—Persons to grow Mushrooms for us in waste spaces or barns, in gardens, orchards or small farms. \$15 to \$25 per week. Send stamp for sixteen-page illustrated booklet on Mushroom Culture and full particulars. MONTREAL SUPPLY CO., MONTREAL.

FOR SALE—Old established tree nursery. Large connection and profits. Easy terms. Best sandy loam. Apply THOMPSON, 17 Queen St., St. Catharines. Also profitable fruit farms for sale on easy terms.

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HARDY PERENNIALS delivered prepaid by Mail or Express. Send 5 cents for descriptive catalog to the SPECIALTY NURSERY CO., GRIMSBY, ONT.

FOR SALE OR RENT—Two Greenhouses. Good condition, 300 x 23 ft. Terms Easy. F. E. and H. M. RICHARDSON, LITTLETON, N.H.

FOR SALE—One of the best business chances in Western Ontario, one acre of land with cottage, 2 large greenhouses, newly built, everything in first-class condition; in a city with about twenty thousand inhabitants. This is a fine opening for a wide-awake man to make money easily. Good reasons for selling. For particulars apply to J. P. Pitcher, Real Estate, Brantford.

C. H. KINGSLEY-BAILLIE, F.R.H.S. (Qualified Fellow of The Royal Horticultural Society of England), Consulting Landscape Architect. Plans, Drawings and Specifications prepared for the development of large and small properties both in town and country. Address: Winona, Ont.

WANTED—Young man with a few years' practical experience in a Canadian or American nursery. State particulars. Steady work and good opportunity for advancement to man capable with ornamental stock. THE WEBSTER FLORAL COMPANY, LTD., HAMILTON, ONT.

TRANSPLANTED MAPLE TREES

For sale in quantity, from 10 to 14 ft. high, 1 in. to 2½ in. in diameter, in large or small quantities. Price on Application.

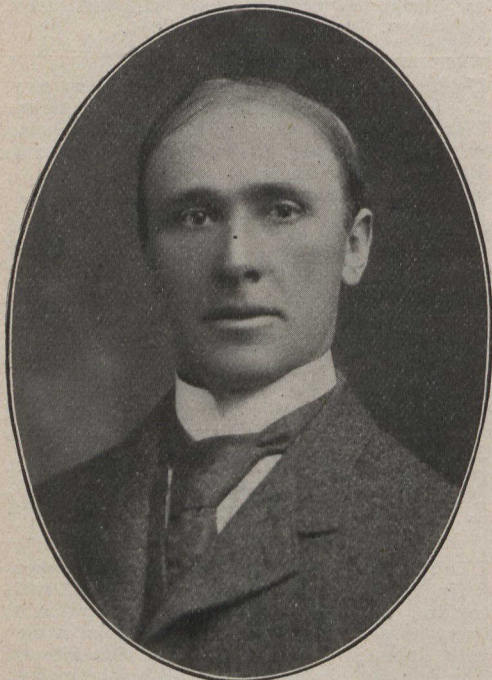
SCRIM'S OTTAWA, ONT.

Mention The Canadian Horticulturist when writing

is not large. Musk melons will be in good supply, as they usually are; the main crop will be Extra Early Hackensack, Osage, Paul Rose and Rocky Ford. Only a very few acres of sweet corn will be grown. Ten or 12 new greenhouses were erected last fall and winter, most of them being small. Some of the larger growers have installed hot water and steam heating plants, Mr. J. L. Hilborn using hot water and J. D. Fraser and E. E. Adams steam. Some experimental work has been done during the past winter in growing lettuce, with good results; more will be grown next winter. Messrs. Hilborn and Fraser are planting a considerable quantity of tomatoes and cucumbers under glass for early spring market."—E. E. Adams, Leamington.

KENT COUNTY

"The growing of vegetables in this district is not confined to the market gardener, but, to a considerable extent, is done by the farmers.



A. McMeans, of Brantford

Mr. McMeans is the v.-pres. of the Ont. Vegetable Growers' Association, and has recently been appointed to have charge of the vegetable department, under Prof. H. L. Hutt, at the Ont. Agricultural College, at Guelph. This is a department that has received but slight attention in the past, and which is to be considerably extended from now on, under Mr. McMeans' direction. At the request of the Vegetable Growers' Association, the department has sent Mr. McMeans to N.Y., Mass., and other of the eastern states to ascertain what work is being done there to encourage vegetable growing, and to visit the places of some of the leading vegetable growers. He is a capable man, and for years has managed his own vegetable establishment at Brantford. In his new position he should do excellent work.

Most of the potatoes produced are grown in Chatham township, but for several seasons the crop has suffered severely from blight. This year, however, the acreage will be largely increased and there should be some for export. Onions are grown only in limited quantities, an acre being considered a large patch. The acreage is about as usual. There is a disposition to go more extensively into early tomatoes and an effort will be made to find an outside market. A number of our gardeners are growing tobacco, and report larger profits than from vegetables. The acreage in tobacco will be large."—Fred Collins, Chatham

SARNIA

"Gardeners have not done much planting or sowing, the season being backward. The acreage in vegetables promises to be above the average and prospects for a good season are bright. There seems to be a feeling that early potatoes are the best to grow. I would not be surprised to see an increased acreage of 25%. However, some farmers are going to grow sugar beets, and this may lessen the quantity of early potatoes grown by them."—W. A. B.

Benefits of Organization

At a meeting of the Toronto branch of the Vegetable Growers' Association last winter Mr. Thos. Delworth, of Weston, outlined the benefits to be derived by organization and by becoming a member of the Ontario Vegetable Growers' Association. The purchasing of supplies such as boxes, twine, Paris green, and greenhouse fittings were mentioned as being worthy of consideration.

Boxes cost 14 cents each, or more, whereas a few years ago they could be had for \$1.00 a dozen, with an extra box thrown in. It was suggested that a committee be appointed to go to the box manufacturers and see what reduction could be had if the members of the local association would agree to purchase their supplies from that factory. The association does not propose to buy these supplies but expects that an arrangement could be made so that by showing the membership card a reduction would be given on the regular prices. Each grower would be required to pay cash for what he purchased. The average grower in this section has to buy 50 to 75 or 80 boxes each season. It is not known where these boxes go, but through loss and breakages many new boxes have to be purchased each season.

The same was true in twine. The value of a single ball of twine was not very much, but the purchases of a season amounted to a considerable sum. During the past few years many growers in the vicinity of Toronto have erected greenhouses. Many instances were known where growers had gone to the firms that supplied boiler fittings and when the clerk found out that the prospective customer was not a regular dealer at that place, they either claimed that they had not the required line in stock, or if they sold them, three or four prices were charged. Something should be done whereby this injustice would be put to an end. The glass for these greenhouses should also be obtained at lower rates than at present.

By co-operation in getting supplies in these different requirements much could be done to lessen the expense to the individual grower. This is the practical way to show the growers that it is profitable to dealers to become members of the Vegetable Growers' Association.

As regards purchasing seeds, Mr. Delworth pointed out that it would not be satisfactory

for the members to club together to purchase their seeds from any one house. Most growers have certain lines of seeds which they buy from certain firms each year, and it is difficult to get them to change and buy seeds from another seedsman. The gardeners were advised never to purchase cheap seeds. The only safe way is to buy the best seeds and those which are recommended. Then if the crop is a failure something should be done to make the firm who supplied the seeds make up the loss, unless the fault lies with the grower. Occasionally seeds are bought which are not true to name and instances are known when seed purchased as beet seed turned out to be mangels. The members of the association should unite to see that an example is made of such instances.

Regarding the crop reports which it has been decided to have published during the summer, Mr. Delworth pointed out that those who grow onions extensively would have saved considerable money last fall if they had known the exact condition of the crop in the different parts of the province. Many growers disposed of their crop at 85 cents because they believed there was a heavy crop throughout Ontario. Such was not the case, and as a consequence prices have soared to \$1.15. Other crops cannot be held over as can onions, but the fact that a few crops can be held over is sufficient to warrant the growers in pressing for regular reports from all sections to be circulated to the members of the association. Mr. Delworth suggested that these reports be tabulated and sent out monthly through THE CANADIAN HORTICULTURIST, and by circular letter every two weeks.

More Experiments Needed

Ed. THE CANADIAN HORTICULTURIST:

In looking over the February number of THE HORTICULTURIST, I notice on page 38, that a gentleman from Hamilton asks a question regarding the production of vegetables in glass houses, and is replied to by Mr. Macoun of Ottawa. The reply is, as you will note, somewhat vague as to results. The matter of expense appears to be against their general production.

INSURANCE

The very best kind of Insurance—i.e., provision for the future as well as the present, is a Savings Account in

— The —

SOVEREIGN BANK OF CANADA

Interest paid four times a year.

\$1.00 will open an account.

Put your money in a place where
you can get it when you want it

57 BRANCHES THROUGHOUT THE DOMINION

Mention The Canadian Horticulturist when writing.

I do not believe that that question of expense is the whole thing. I am of the impression that our markets might be supplied to some extent during the off season, or cold months, providing our growers, commercial or otherwise, could obtain some reliable, honest facts as to the cost of production, the labor attached to such production, and the gross or net results of a season's work. Facts could be given also concerning preparation of the soil for greenhouse benches, how to prepare it, what kind would be preferable for different vegetables, what kind of fertilizers should be used for certain vegetables, and why certain fertilizers are used, etc.

The field is a large one and a good one for exploration. I have been doing something in it for my own satisfaction, and the idea suggests itself to me that after reading your editorial on page 40, also in this month's HORTICULTURIST, regarding the Guelph college work along these lines, that something should be done to further the general information on this subject for the benefit or profit of those who are in the business. Why should not this work be carried on as well as other experimental work, in connection with farm questions in general? I see no reason whatever for further delay, as life is short enough for most of us, and the sooner we get a move on, and give out something for the betterment of the world, the better. As to the Guelph results, I am, along with almost, if not all, the growers here, completely in the dark as to what is going on. It may be possible that a lot of good work is being done, but for some reason or other we do not get a trace of it, which possibly may be our own fault. However, we have THE HORTICULTURIST, and if anything is doing, apparently the results might be published in it, and a great many of those who are interested could then see for themselves what has been done.—E. E. Adams, Leamington, Ont.

I congratulate you on the recent changes and improvements in your valuable paper, THE CANADIAN HORTICULTURIST.—C. D. Jarvis, Cornell University, Ithaca, N.Y.

Fruit Experiment Station

While it has not been officially announced, it is generally understood that the fruit experimental farm the Ont. government purposes establishing in the Niagara district will be located on 50 acres of ground that has been offered to the government free of cost by Mr. M. F. Rittenhouse. This ground is located near Jordan. Mr. Rittenhouse is a well-known millionaire of Chicago, formerly of the Niagara district, who already has given a fine schoolhouse and public library to his old school section near Jordan.

It is understood that the government appointed a committee to inspect the soils, and see if this land would be suitable for the purposes of the farm, and that this committee has reported favorably. It is understood also that more land can be bought immediately adjoining at a reasonable price.

Presents for Our Readers

Our readers will be given their choice of the following premiums, when purchasing goods from our advertisers, if they tell them that they saw their advertisement in THE CANADIAN HORTICULTURIST: 3 months' renewal subscription to THE HORTICULTURIST; 1 Baby Rambler Rose; 1 Herbert Raspberry; 1 Boston Ivy; Book on Strawberry Culture; Collection of 6 Tuberos Begonias; Sweet-scented Calla Bulb; New Grape Vine; New Fern Nephrolepis Pierstoni; Large Size Package "Helen Pierce" Sweet Pea, new; New Dahlia "Mrs. Roosevelt," new; Book on Bulbs and Bulbous Plants; Book on Fertilizers; Book on Injurious Insects; Plant Diseases and their Remedies; Book on Onion Culture; Book on Tomato Culture; Book, Your Plants, House and Garden; Hydrangea paniculata grandiflora; Collection of 3 Canna Bulbs; Collection of 6 Garden Vegetable Seeds; Collection of 6 Garden Flower Seeds; Collection of 6 Gladioli Bulbs. No premium given to those whose purchase amounts to less than \$1.00. To the reader purchasing goods to the greatest

value from our advertisers in the May issue, we will give a \$5 cash prize. It is no trouble to win a prize. Just tell the advertiser, when writing, that you saw their advertisement in THE HORTICULTURIST, and then make application to THE CANADIAN HORTICULTURIST for a premium. Write the Advertising Manager, THE CANADIAN HORTICULTURIST, 507-508 Manning Chambers, Toronto, Ont.

Items of Interest

The illustration of an apple tree in bloom, shown on the front cover of this issue of THE HORTICULTURIST, is that of an old Fall Pippin tree. It is located on the lawn of Mr. C. Ernest Woolverton, at Grimsby, and was planted in 1798 by Mr. Jonathan Woolverton, the great-grandfather of Mr. Linus Woolverton, the former editor of THE CANADIAN HORTICULTURIST. The photograph was taken by Mr. Chas. Saunders, of Ottawa.

The Ont. government is considering the advisability of establishing experiment stations in Essex County. If a satisfactory location can be secured, experiments will be conducted in vegetables, fruits and tobacco. This move was recommended by the board of control of the fruit experiment stations at a meeting some time ago.

That it is becoming popular to advertise in THE CANADIAN HORTICULTURIST, is shown by the steady increase in our list of advertisers and by the increased space our old advertisers are taking. New advertisers in this issue are the Sovereign Bank and the Dominion Steamship Co. of Montreal. The Robt. Reford Steamship Co., of Montreal, and the Gerhard Heintzman Co., of Toronto, have each doubled their advertising space in this issue. How is that as a sign of progress?

I have been taking THE CANADIAN HORTICULTURIST for a number of years, and I must say it is very much improved of late.—Robt. Mitchell, Coleman, Ont.

MAY TIME IS THE RIGHT TIME

In which to plant many of the beautiful shrubs and vines that
MAKE THE HOUSE ATTRACTIVE

Our beautiful catalogue gives a large list from which the most particular planters can make a complete selection.

We ship anywhere in Canada and you may know when ordering from us you will receive just what you order.

Stock the Best Prices Right

The Helderleigh Nurseries

E. D. SMITH, WINONA, ONT.

Mention The Canadian Horticulturist when writing.

Eldorado Potato

**SO PERFECTLY BLIGHT DISEASE PROOF,
SUCH AN ENORMOUS CROPPER OF HIGHEST
QUALITY, IT HAS CREATED THE
GREATEST SENSATION OF ALL TIME**

"Even so recently as September last, when Mr. G. Massey sold 14 lbs. of Eldorados for £20 (\$100) people were amazed and incredulous; yet three months later the same gentleman received a check for £1,400 (\$7,000) for 14 pounds of same variety."

FREE PRESS (London, Eng.), Jan. 19th, 1904

"Last April pot grown plants of the Eldorado potato sold at \$52.50 each, one grower selling over \$2,000 worth at this price."

RURAL NEW YORKER, New York, Aug. 24, 1904

"The yield of the Eldorado potato, the kind that brought the record price, is reported to run from 150 to 300 lbs. from one pound of seed tubers."

RURAL NEW YORKER, New York, Jan. 14, 1905

PRICE \$1 PER POUND

List containing history, photos of potatoes, checks paid, press opinions of 81 papers, etc., mailed on receipt of address. ELDORADO doubles your crop, and every potato a sound one. Last opportunity to secure some for this season.

Don't buy Fruit Plants until you see our list, greatest assortment, lowest prices, and highest quality.

SMITH BROS. Box 4 Beachville, Ont.

MEMBERS CANADIAN SEED GROWERS' ASSOCIATION

Mention The Canadian Horticulturist when writing.

THE WOODVIEW POULTRY YARDS

LONDON
ONTARIO

BARRED PLYMOUTH ROCKS EXCLUSIVELY

At the great "Ontario" Show at Guelph, December 11th to 15th, 1905

WOODVIEW PULLETS WON

First in class open to the world; Special for best Barred Plymouth Rock female at the show; and the Canadian Barred Plymouth Rock Club's Special for best Pullet.

At the International Show at Detroit, January 6th to 11th, 1906

WOODVIEW BIRDS AGAIN WON

In competition open to the world.—First pullet; Second cockerel; Second cock; and Special for the best shaped male at the show.

OUR MALES ARE BRIGHT STRAIN

the best obtainable. EGGS FOR HATCHING, \$2.00 PER SETTING UP.
MATING LIST MAILED FREE UPON REQUEST

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FEMALES LATHAM STRAIN

the best obtainable. EGGS FOR HATCHING, \$2.00 PER SETTING UP.
CORRESPONDENCE SOLICITED

John Pringle, Prop.

Creighton Poultry Yards

OTTAWA, ONTARIO

CAREFUL breeding has produced in our yards a very high-class strain of barred Plymouth Rocks, and White Wyandottes. The best for exhibitions or home use.

Eggs for hatching \$2.00 for 13.

High percentage of fertility proved.

S. SHORT, Proprietor

Mention The Canadian Horticulturist when writing.

LYNNWOOD POULTRY YARDS

Barred Plymouth Rocks Exclusively

By careful attention and breeding pure imported stock year by year, I have produced in the "Lynnwood" strain that which is as near the standard as it is possible to get. Eggs from double mating: Pen No. 1, for Cockerels, \$3.00 per 15. Pen No. 2, for Pullets, \$3.00 per 15 or \$5.00 per 30. The above Pens are special exhibition matings. Pens No. 3 and 4 are for exhibition Cockerels, \$2.00 per 15. Pen No. 5 for utility, \$1.00 per 15. A few Cockerels for sale.

SATISFACTION GUARANTEED

SPECIAL PRICE ON INCUBATOR EGGS

S. E. LINDABURY

Simcoe, Ontario

Member Canadian Barred Plymouth Rock Club

Mention The Canadian Horticulturist when writing.

GLEN FARM WHITE PLYMOUTH ROCKS

Bred for winter egg production, meat production, and also winners at Canada's largest shows

EGGS, \$2.00 PER FIFTEEN

GEO. A. ROBINSON, St. Catharines, Ont.

Mention The Canadian Horticulturist when writing.

TREES AND ROSES

I have a surplus in Hardy Roses, Apple, Pear and Plum Trees, Flowering Shrubs, Gladiolus, Cuthbert Raspberries, and Carolina Poplar that I will sell now at give away prices. Write your wants.

A. W. GRAHAM St. Thomas, Ont.

Mention The Canadian Horticulturist when writing.

FLOWER POTS



Now is the time to order them for Spring trade. We have a large stock of all sizes on hand and can make prompt shipments.

Drop us a post card for Catalogue and Price List.

THE FOSTER POTTERY CO.

Limited

MAIN STREET WEST HAMILTON

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MARCHMENT'S

Sure Growth COMPOST

Supplied to all the largest nurserymen and fruit growers in Ontario. Shipments made by car or boat. Prices reasonable.

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Telephone Main 2841

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Baby Rambler
In bloom all summer

PLANTING TIME

will soon be here. Have you placed your order for Trees, Vines, Shrubs, etc.? Do not delay. Remember, we can supply your wants at a reasonable price. For street, lawn or orchard. See free catalogue for verity and PRICES. Choice Seed Potatoes, etc. BARGAINS in Apple Trees for March. Write us. 26th year.

A. G. HULL & SON

CENTRAL NURSERY, ST. CATHARINES, ONT.

Have You Received One of the Premiums "The Canadian Horticulturist" offers to readers who purchase goods from advertisers in this issue? See page 135.

Best For Cheese Making.

Pure, uniform crystal. Dissolves slowly. Stays in the curd—not carried away in the whey. Makes a smooth, firm, delicious cheese that keeps perfectly.

Windsor SALT

Salting the curd is the most important part of cheese making. Start right, with Windsor Salt.

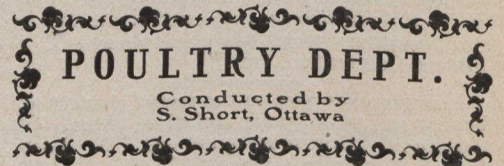
Your dealer has WINDSOR SALT, or will get it for you.

Will Build a Packing House

In a letter to THE HORTICULTURIST recently, Mr. W. D. A. Ross, manager of the Chatham Fruit Growers' Ass'n, discussed the benefits to be derived by forming a stock company. For the past four seasons this organization has been very successful in handling the fruit crops of its members.

"We had no warehouse," wrote Mr. Ross, "and wished to raise about \$5,000 for the purpose of buying a site and putting up a building large enough to accommodate our business, which has largely increased in the last four years. We incorporated under the Cooperative Cold Storage Act, and are disposing of 200 shares at \$25 each to raise necessary funds. The stock can be held only by fruit growers, and no one can hold more than 10 shares. Every member must hold at least one share. The management remains the same as it was. We simply incorporated without any other change, and with scarcely an exception the members have taken from 1 to 10 shares.

"We expect to make dividends by using our own culls instead of handing them over to an evaporator, and by handling fruit from outsiders. At the modest capital we are raising it will not require a great deal to give a substantial dividend. We have purchased another power sprayer, and will keep two in full operation if the crop prospects warrant us in doing so. We have secured a very good site, and intend building at once if there is a prospect of a fair crop."



To be successful in hatching chicks either by natural or by artificial incubation strict care must be taken to start aright with the eggs. All the careful supervision and perfection of detail will count for nothing unless the eggs are well fertilized and contain healthy, normal germs. Nowadays, when the pure-breeds have pretty generally taken the place of the mongrel, more intelligence is given to the proper mating of the breeding pens and it is possible to get eggs, at a reasonable figure, from pens so mated.

For utility purposes the male should not be related to the females. Such relation impairs the vigor of the progeny. This will be shown by the germs developing until the 14th day, and then dying. The majority of those which mature will be undersized. It is well, before purchasing from any breeder, to ask for information on those points.

CARE OF THE CHICKS

In May, after the chicks are 12 hrs. old, place them with the hen in a coop at least 2 x 2 x 2 ft. with slatted front 2 in. between slats. Paint inside of the coop with coal oil or liquid lice exterminator an hour or two before placing in the hen. The latter should be dusted with insect powder. Give the hen a good meal before placing her in the coop, and she will be less fussy in her new quarters. The floor of the coop should be sprinkled with dry sand, coarse sand preferred. Add chick grit, fine ground oyster shells, or broken egg shells. This provides the chicks with gizzard material, and prevents bowel trouble.

The best position for the coop is on the south side of a building or fence. I arrange my own at the back of the lawn, and the chicks have the benefit of running over and picking at the tender grass shoots. The coop should never be placed, nor the chicks fed, with the old fowl, for the other hens will fight the mother hen and trample and pick, sometimes fatally, the chicks. The coop should be rainproof, and on very cold nights may be protected with

sacking or pieces of old carpet. It is wise not to give more than 10 chickens to one hen. It lessens the danger of the hen trampling them to death or of the weakly chickens being crowded out and chilled during the night. Renew the material on the floors of the coops at least weekly, and mix with it after the first week a little flower of sulphur. After the first day the hen may be liberated about 5 o'clock in the evening, and she will at once seek a place to dust herself, and after an hour's exercise will return to the coop for the night.

FEEDING

The first food given is stale bread moistened with milk and finely chopped onion added. The onion prevents bowel disease. Rolled oats may be given not more than twice daily. After the second day Puritan chick meal may be used as the chief diet, and the first mentioned food given occasionally. The Puritan meal seems to be a well-balanced food, and the chicks like it. It is expensive, but the chickens do so well that it is the best and cheapest in the end. After the first week small grains should be fed for the last meal. After four or five weeks the expensive special foods may gradually be discarded for the ordinary diet, unless the chickens are being forced for the fall shows, when it will be better to continue the food that produces the fastest development. Size is necessary to win. Skim milk may be used to advantage as drink, and also to moisten the meal fed both to the chickens and the other fowl.

FRUIT GROWING AND POULTRY

If it can possibly be arranged, the poultry should have the run of the apple and other orchards. The fowl catch the injurious insects. They eat all worm-eaten fruit, thereby destroying maggots that would eventually have developed into parent insects. Their constant scratching is a good form of cultivation, and the droppings are valuable fertilizers. When the main crop of fruit is about ripe the fowl must be shut off from the orchard. Fowl may be enclosed in the raspberry patch with similar benefits to both. Raspberries begin to ripen about July 1, and finish ripening about Aug. 15. Between those dates the fowl will have to be removed for they relish ripe raspberries. In the runs on a town lot black currants may be grown successfully. Fowl will not eat black currants until the currants are over-ripe. This gives an opportunity for the crop to be harvested before being eaten, which saves the trouble of removing the hens from the runs.

Items of Interest

At a meeting of the Burlington Horticultural Association on Mar. 31, the following resolution was drafted and forwarded to the authorities: "That this Association respectfully urges the Dominion government to use every effort to make such arrangements with the government of Germany as will admit of Canadian fruit, both green and dried, entering the German market on as favorable terms as the fruit of the United States, and that a copy of this resolution be forwarded to Hon. Sydney Fisher, J. E. Armstrong, M.P., and D. Henderson, M.P." Amalgamation with the Southern Ontario Fruit Growers' Association was considered, and a resolution was passed to join that association on the basis of one representative. D. Johnson, of Forest, and A. Gifford, of Meaford, gave interesting and instructive addresses.

Extensive work is being planned by the executive of the Grimsby (Ont.) Horticultural Society for this season. A civic improvement committee comprising H. K. Griffith, J. A. Livingston, John Brennan and Dr. Smith, appointed some time ago, have been doing energetic work in an attempt to get the citizens and the managers of the railway companies to assist in beautifying the streets and public

50,000 GIANT PANSIES

Selected German and American strains. 35c. per dozen, 4 dozen \$1.00. Special Prices for Larger Quantities. Also DAISIES and FORGET-ME-NOTS, 40c. per dozen. Orders Booked Now.

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GATHER YOUR CHERRIES WITH THE ONLY

Successful Cherry Picker



The cherry is not touched or bruised by the hand. The long, unsightly stem is severed and most of it is left on the tree; hence the fruit looks much more attractive in the box or basket. It also keeps much better and the fruit buds for the next year's crop are not injured. It is held in one hand and operated easily and rapidly. The other hand is free to hold the twigs, etc. Every cherry that is clipped goes into the cup and is secured. The picker has been thoroughly tested and gave good satisfaction. Sent postpaid on receipt of 75 cents. Two for \$1.25. Send for circular.

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EAST. "So well pleased with all points, we intend to build more of them." G. MATTHEWS, Great Neck, N. Y.

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WEST. "They are perfect in every way." C. F. MALER, Denver, Colo.

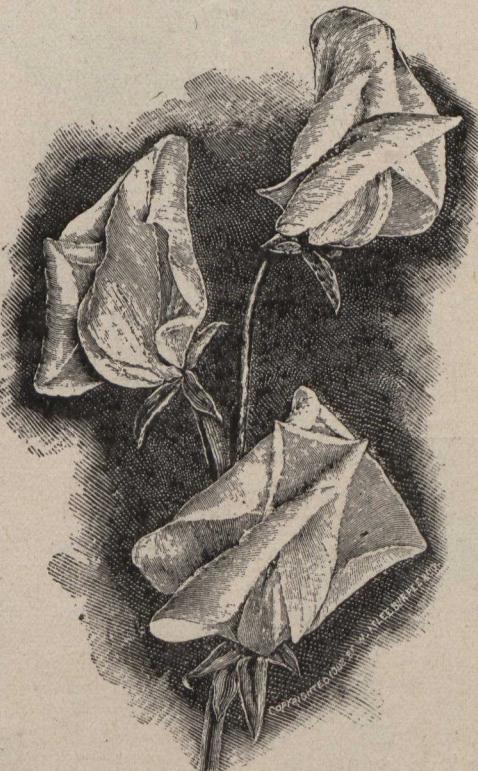
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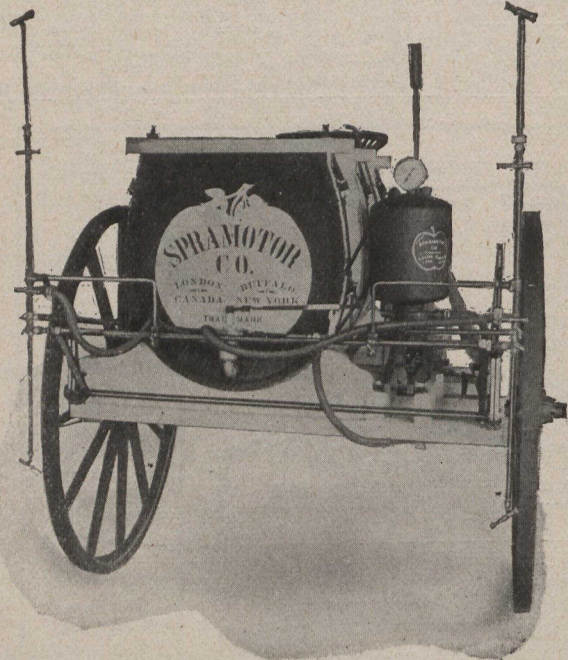
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Horse Power Spramotor

For Vineyard, Orchard and Potato Spraying



Fi . 69

Fig. 62 shows the bottom and top Potato Sprayer, 10 nozzles going at one time at 100 pounds pressure, and it's easy work for one horse. Will be fitted for two horses when so ordered.

Guaranteed for one year against faulty construction or material.

Has a capacity of 12 nozzles at 100 pounds pressure in continuous work.

It is the latest and best yet.

Two types of Spramotor Hand Machines are here shown. Fig. 70 is placed as per cut, or on cask.

It is our standard machine. It was awarded first place at the Government Spraying Contest and the Gold Medal at the Pan-American. Its sales are doubling each year, made in 3 sizes, of 2, 4 and 6 nozzle capacity, in all brass or brass working parts.

Fig. 64 is the new Horizontal Duplex Spramotor, is used on its own base or upon the tank. Is fitted with Duplex valves and automatic self-packing plungers. It's the only motor made with central valve chambers and two opposed cylinders. It is arranged for hand, horse power and gasoline power. Capacity 8 to 30 nozzles. Full particulars on application.

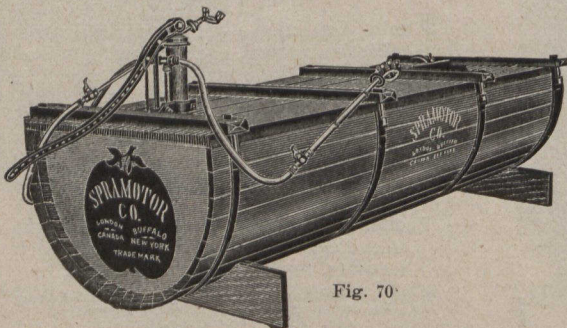


Fig. 70

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THEY are fitted with new Patented Automatic Regulator that relieves the horses of fully one-half the usual load and greatly prolongs the life of the machine.

The entire machine is high-grade throughout.

All are fitted with Patent Nozzle Adjustor and will be fitted with our new Nozzle Protector, and when so fitted, all the adjustment as to height and position of the nozzles may be made by the driver while the machine is in motion.

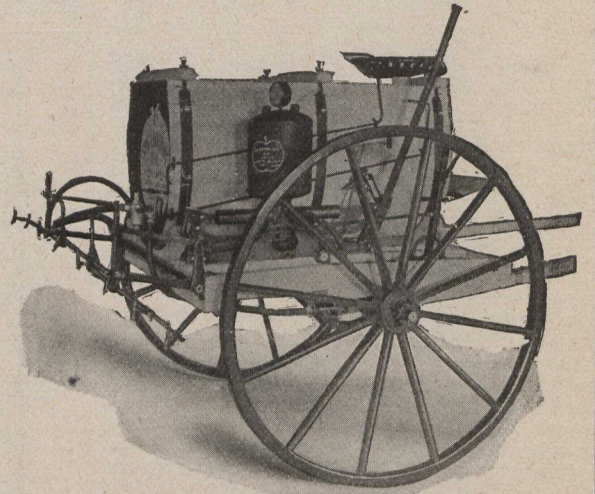


Fig. 63

Fig. 69 is arranged for vineyard work with 4 nozzles on each side.

Fig. 63 is the same sprayer showing the combination sprayer arranged for surface spraying. The change can be made in a minute's time.

Fig. 62

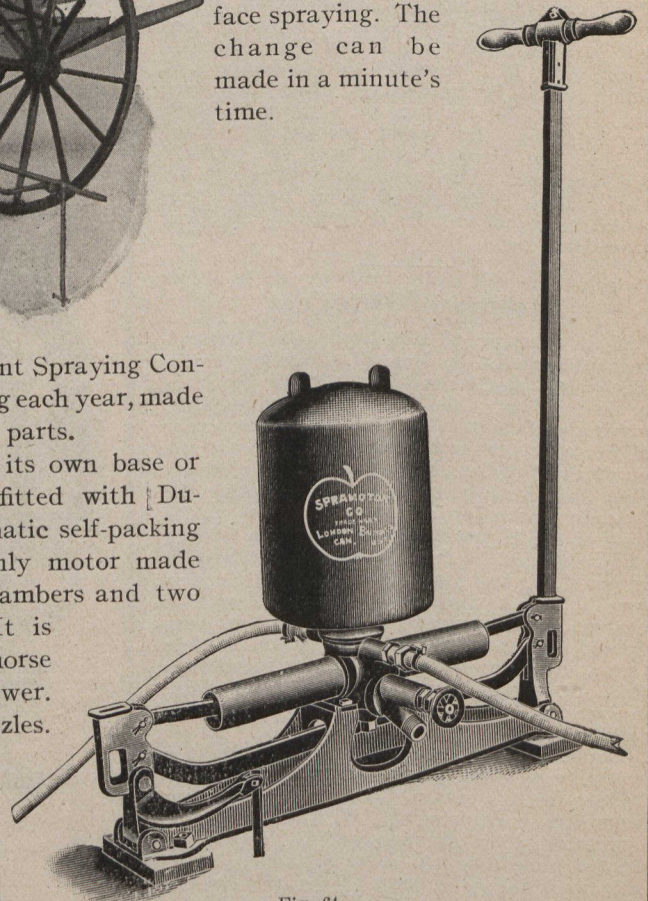


Fig. 64

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SPRAY, SPRAY, SPRAY

your trees for the

Codling Moth and All Leaf Eating Insects with the Best and Safest Poison which is

Swift's

Arsenate of Lead

IT WILL NOT BURN AND IT STICKS

MADE ONLY BY THE

Merrimac Chemical Co.,
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Write for free booklet.

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Mail Orders given Prompt Attention.

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places as well as the private lots. The committee will make regular tours of inspection to draw the attention of the citizens to small neglected spots on their properties, and to suggest a way of beautifying these places. It is proposed that a subscription list be opened, asking for donations of money, plants, flowers, bulbs, seeds, etc., to be used in brightening up the several public places that need it. An attempt will be made also to interest the teachers and children in the public schools of Grimsby and vicinity in the work.

The Corby Park at Belleville is to be remodelled and made more attractive. A Montreal landscape architect has looked over the park, and will prepare plans for ornamentation that will make it more creditable to the city.

A delegation of fruit growers from the townships of Clinton and Louth in the Niagara district waited on Hon. Nelson Monteith recently and asked that the new experimental fruit farm, which it is expected will be established in the Niagara peninsula, be located between Beamsville and Jordan. The members of the delegation were: A. H. Culp, W. S. Duncan, Wm. Fretz, J. Bennett and D. Moyer.

A report in the weekly Trade and Commerce report of April 9 from Commercial Agent J. B. Jackson, of Leeds and Hull, stated that there was a good demand for Canadian canned tomatoes. Fresh tomatoes are now extensively used in England. These are imported principally from the continent and the Canary Islands. They are much smaller and lack the flavor of the Canadian fruit; they are packed in oblong boxes, each tomato rolled in tissue paper; the boxes have a layer or covering of paper at the top and bottom. Each box generally contains 14 or 15 lbs. of fruit. For shipment purposes four boxes are always nailed together with thin laths. Mr. Jackson thinks that tomatoes could be shipped there from Canada in the autumn, and arrive in good condition. If so, they would bring the highest price in the market, and would easily sell at \$4 per bush.

A company with \$40,000 capital has been formed at Belleville for manufacturing sweet cider, cider vinegar, pickles, jams, and jellies. The directors are Sir Mackenzie Bowell, Messrs. R. J. Graham, W. J. Magrath, S. Burrows, and W. C. Springer. The directors elected the following officers: Pres., R. J. Graham; vice-pres., W. J. Magrath; sec.-treas., E. P. Frederick. The factory will be fitted up at once.

The large increase in the membership of the Western Horticultural Society in Man. during the past year, and the greater attention now being given to horticultural work has led the members to decide to hold a horticultural exhibition in Winnipeg. The attempt under the auspices of this society three years ago was most creditable. The display of fruits, flowers and vegetables was excellent, and many were the expressions of surprise heard from visitors, to the effect that they did not think such things could be grown in Man. Many of the exhibits were purchased to send away to the United States or elsewhere, where they were used with telling effect for immigration purposes. The exhibition, however, was a financial failure,

PERMANENT meadows should have an annual dressing of 500 pounds per acre of a fertilizer containing eleven per cent. POTASH and ten per cent. available phosphoric acid.

This will gradually force out sour grasses and mosses from the meadows, and bring good grasses and clovers; thus increasing the quality as well as the quantity of the hay.

Our practical book, "Farmer's Guide," gives valuable facts for every sort of crop-raising. It is one of a number of books on successful fertilization which we send on request, free of any cost or obligation, to any farmer who will write us for them.

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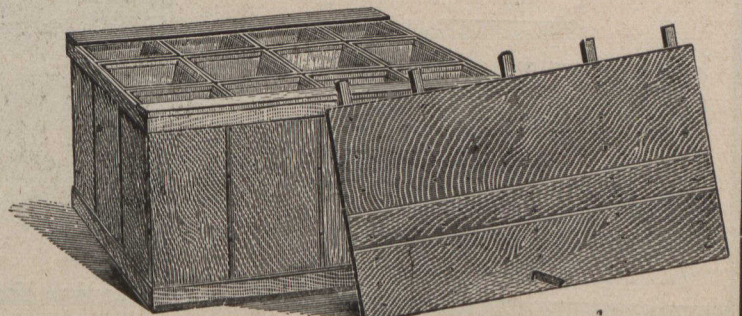
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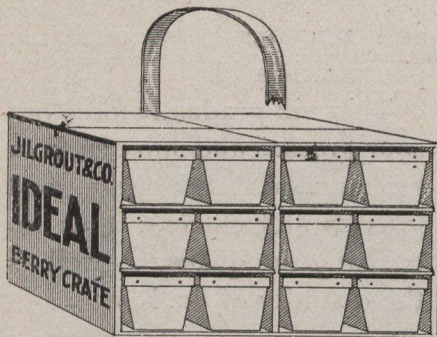
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carry your fruit safely
to the consumer, send
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and left the society very much embarrassed. It is hoped that the efforts this time will be crowned with success.

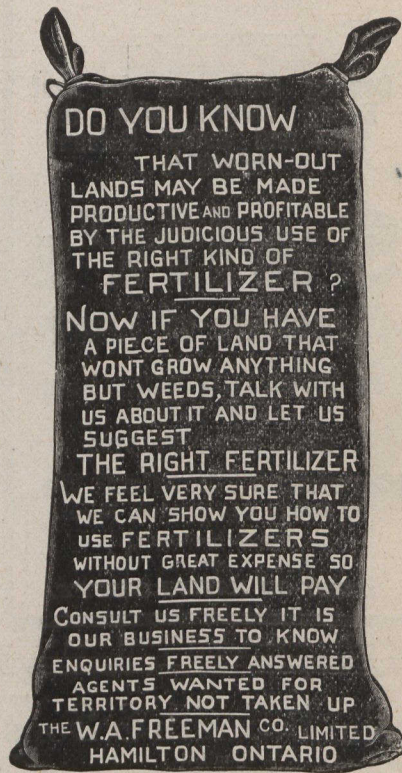
Probably the highest prices ever paid for California cherries were realized in Philadelphia, April 22, at a local commission merchant's establishment, where a box of fruit was sold at auction for \$2,440, the funds to be devoted in aid of the earthquake sufferers in California. Each cherry was offered for sale singly, the first one selling for \$105, and the others for amounts ranging from \$100 down to 50 cts.

The revised copy of the report of the recent Dominion fruit conference recently held in Ottawa, is in the hands of the printer and will soon be ready for distribution. Copies may be had by writing to the Fruit Division, Dept. of Agri., Ottawa.

Mr. A. McMeans, of Brantford, vice-pres. of the Ont. Veg. Growers' Assn., assisted by some of the members of Parliament from the leading vegetable growing sections, had an interview with the Minister of Customs last month, regarding having an appraiser appointed to appraise the value of vegetables shipped to Canada from the U.S. Vegetables are often imported at ridiculously low valuations, and it is felt something should be done to protect Canadian vegetable growers. The interview lasted over an hour, and while little hope was held out that such an official would be appointed, it was intimated that it is the Government's intention to have a specific tariff in the near future which will be even more satisfactory to the growers.

Two more fruit dealers have been prosecuted recently under the Fruit Marks Act. They are Geo. Vipond, a Montreal merchant, who was convicted of violating Section VI, and was fined 25 cts. a package for all incorrectly stamped, and G. A. Allseybrook, of Burford, Ont., who was convicted April 14 for fraudulent packing, and was assessed \$1 per bbl.

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Every Wednesday morning commencing
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Every Saturday morning, commencing
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the steamers—ONTARIAN

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Saturday, May 12th, and fortnightly
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Line are specially equipped to carry
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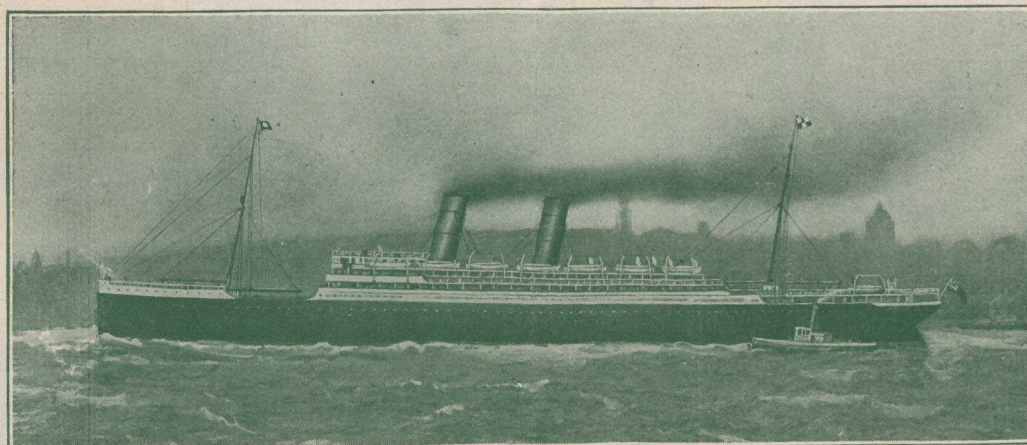
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LAKE MANITOBA		First and Second Cabin, also Third Class in inclosed 2, 4 and 6 berth rooms.
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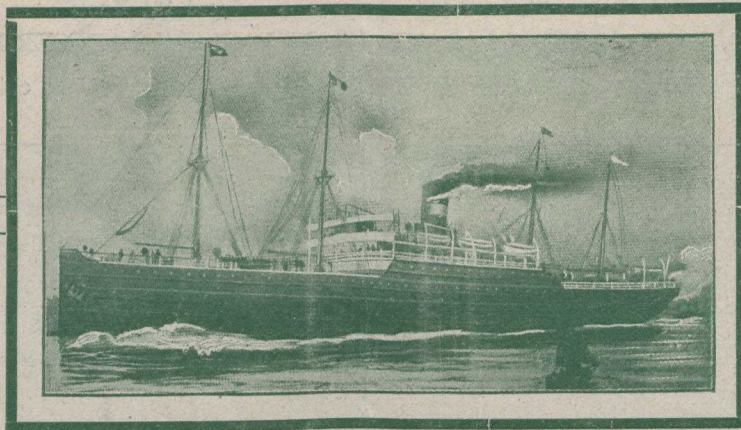
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