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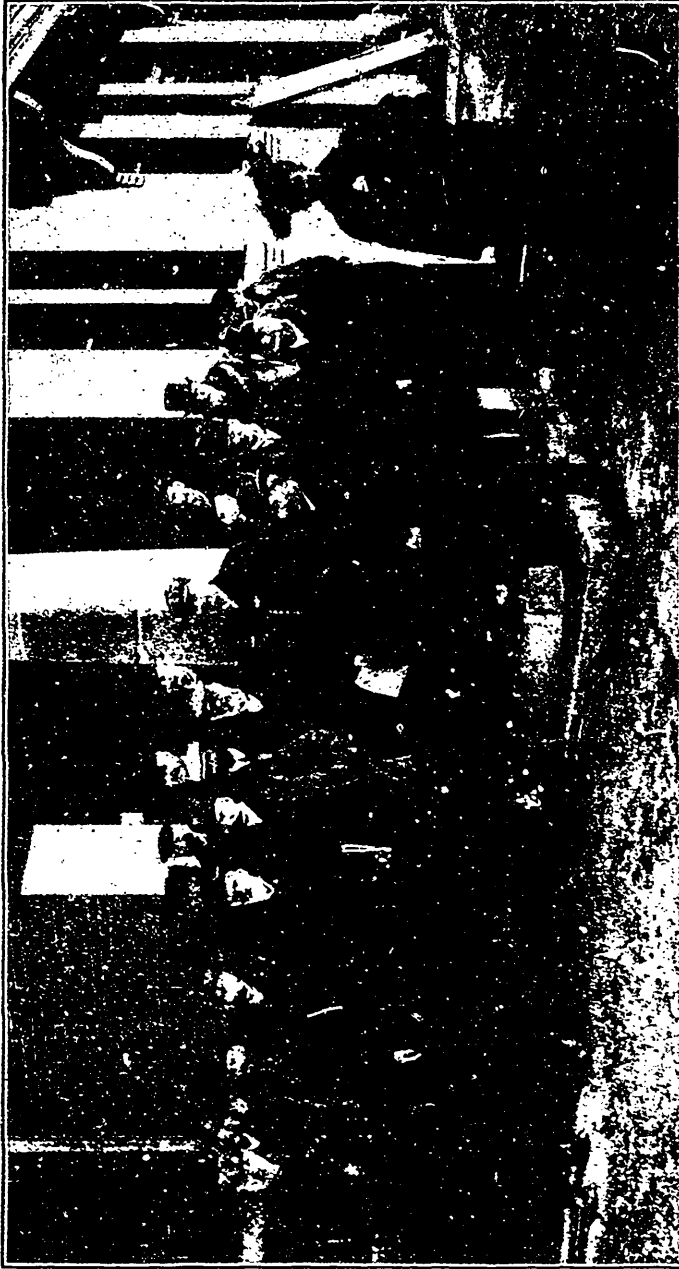


### TO THE DEAD YEAR

It seems but yesterday, and yet I know  
Thy smiles are dead, thy glories passed away !  
Thy voice has left the earth where, to and fro,  
Death's children wander now in bare array.  
One would not guess a thing had e'er been gay  
In fields or woods, where now the fall winds spread,  
The leafless branches tossing in dismay,  
'Neath skies no longer blue, but dark with dread.

Yes, thou art gone ! and yet a lesson rife  
With truths from Him thy death is meant to teach,  
Like thine, the summer days of life  
Must fade, and age's winter come to each.  
Do not the falling leaves these sermons preach,  
That hope is not a shield against decay ?—  
That time will soon the dreams of youth impeach,  
And write the summons none can disobey ?  
And yet thy death old year but makes it plain  
That though we die, we too, shall live again.

T. H. RACE.



### Nova Scotia Fruit Growers While in Convention at Windsor, N. S.

Between two of the sessions of the Nova Scotia Fruit Growers' Annual Convention at Windsor, N. S., a photographer secured this photograph, of some of the leading officers and members, specially for The Canadian Horticulturist. The gentleman leaning against the pillar and with a sheet of paper in his hand is Mr. Starr, who judged the fruit at the Provincial Fair, Toronto, and Honey Show, in Toronto, during November. In front of Mr. Starr, and also holding a piece of paper, is the new president of the association, Mr. Ralph S. Eaton; while the secretary, Mr. S. C. Parker, may be seen to the left standing next the lady. The convention was a pronounced success.

# The Canadian Horticulturist

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## THE FRUIT SHOULD BE A SEPARATE DIVISION

IT has been announced in the press that the Dominion fruit division will shortly be placed under the control of the Dominion dairy division. This action is the result of the resignation of Prof. James W. Robertson as the Commissioner of Agriculture and Dairying. That the fruit growers of Canada are opposed to such action is evidenced by interviews secured by The Canadian Horticulturist with representative growers.

"Such action," said Mr. W. H. Bunting, of St. Catharines, the honorary president of the Ontario Fruit Growers' Association, and a prominent member of the Niagara Peninsula Fruit Growers' Association, "would be very disastrous to the fruit interests of Canada. Our fruit interests are important enough to have a footing of their own and should not be made subordinate to any other interest, no matter how important that interest may be. As fruit growers we feel that we should have the right, through the chief of our division, to go direct to the Minister of Agriculture. This right will only be assured us by the fruit division being recognized as a division by itself, with its head responsible only to the Minister of Agriculture. I am satisfied that any such action will be strongly opposed by fruit growers generally, and would like to see the views of the growers laid before Hon. Sydney Fisher in time, if possible, to prevent the proposed amalgamation."

Mr. Murray Pettit, of Winona, a director of the Ontario Fruit Growers' Association and president of the Niagara District Fruit Growers' Stock Co., Limited, said: "It is decidedly in the interests of fruit growers that the fruit division shall be continued as a division by itself and not amalgamated with any other division. The fruit interests are of great importance and are increasing in extent very rapidly. As fruit growers we feel that these interests will be best served by being directed solely by a person who represents the fruit interests, this person to be directly responsible to the Minister of Agriculture and to no other person. Fruit growers generally are of this opinion and are strongly opposed to any action that is likely to affect the value of the work of the fruit division or that will restrict its operations in any way."

One of the largest fruit growers in Canada, Mr. E. D. Smith, of Winona, was equally emphatic in his views as expressed to The Horticulturist. "The fruit interests," said Mr. Smith, "while not as important as the dairy interests, are of sufficient importance to be entitled to a division independent of any other. When we make suggestions to the head of the fruit division we do not want to feel that these suggestions must in turn be submitted for approval to the head of some other division, who is in no way interested in fruit, before action can be taken. If it is proposed to com-

bine these interests no action should be taken until Parliament meets, when this matter may be thoroughly considered. As a fruit grower I will strongly oppose any fusion of the fruit and dairy divisions and I am satisfied that other fruit growers feel the same way."

As will be seen in another column the Prince Edward Island Fruit growers, at their annual convention during the third week of December, passed a resolution unanimously opposing the proposed union of the two divisions, the opinion being freely expressed by those in attendance that

such an amalgamation would likely prove disastrous to the fruit interests of Canada.

A leading Ontario fruit grower, speaking to *The Horticulturist*, stated that 'were the dairy and fruit divisions joined, with the chief of the dairy division as the superior officer, it would simply mean that the fruit interests of Canada would be the tail of the dairy kite. Owing to lack of space, *The Horticulturist* is unable to give the views of more growers on this subject, but can state that every fruit grower heard from is thoroughly opposed to the proposed combination of the two divisions.

## PRINCE EDWARD ISLAND FRUIT GROWERS' PARLIAMENT

**M**ATTERS of great interest and importance to the fruit growers of the Dominion as well as of Prince Edward Island were dealt with at the ninth annual convention of the Prince Edward Island Fruit Growers' Association held at Charlottetown December 20 and 21. The Fruit Growers' Association is the most vital of all the garden province's organizations and keen interest was, therefore, manifested in the subjects discussed.

Several important decisions were reached. It was resolved to ask the Dominion Minister of Agriculture to place fruit commission merchants under Dominion regulation; to give inspectors under the Marks Act right of control in loading apples on shipboard; to put express companies under the jurisdiction of the railway commission; to ask for government assistance to inaugurate co-operation; to recommend the purchase of a full line of horticultural implements for the experimental farms; to urge the convoking of a National Fruit Growers' Council; and, to make *The Canadian Horticulturist* the official organ.

### AN IMPORTANT RESOLUTION.

The following resolution, which was adopted unanimously, was recognized to be

of great importance. In passing it the growers felt assured of the support of the great body of the fruit growers throughout the Dominion. This resolution read as follows:

"Whereas it has come to the knowledge of this association, through the press, that an amalgamation of the Fruit with the Dairy Division of the Department of Agriculture, Ottawa, is in contemplation; therefore it is resolved that this assemblage of the fruit growers of Prince Edward Island do respectfully express to the Honorable the Minister of Agriculture its unqualified disapproval of any such amalgamation as detrimental to the large and increasing horticultural interests of Canada, which call for extension in their central offices rather than restriction."

### THE CONVENTION A SUCCESS.

Much of the credit for the decided success of the convention is due the president of the association, Rev. Father A. E. Burke, of Alberton, who was unanimously re-elected as president amid much enthusiasm. Rev. Father Burke's sympathy with the agricultural interest; and splendid powers of direction are known and appreciated and perhaps more thoroughly without his own

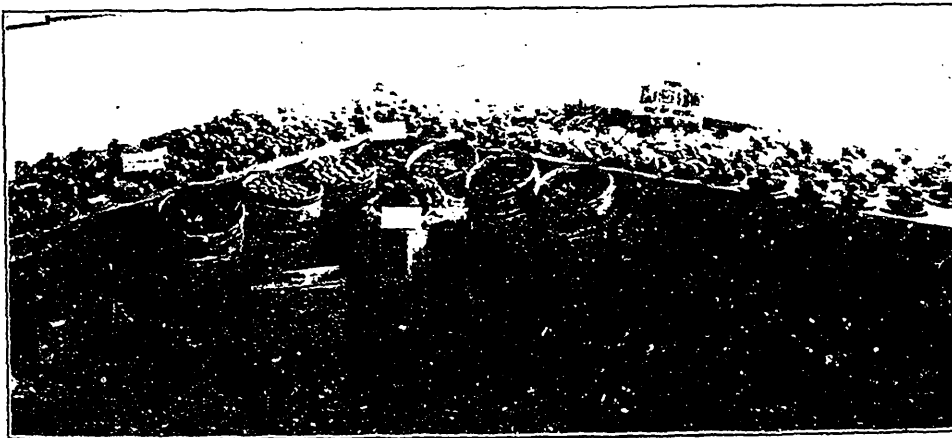
province than within, although his leadership is there universally admitted. The manner in which the meetings were managed and the enthusiasm and spirit of enquiry they aroused was most noticeable. Nothing but questions of vital interest were considered, and they were discussed so thoroughly as to give general satisfaction.

The principal speakers were Messrs. Alex. McNeill, Chief of the Fruit Division, Ottawa; Mr. W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa, both of whom are very popular with the Island's fruit growers; Saxby Blair, Horticulturist, Nappan, N. S., and G. H. Vroom, D. F. I., of Middleton, N. S., who are becoming noted in the Maritime Provinces as horticultural authorities. All the speakers gave splendid satisfaction. Mr. McNeill spoke on "Varieties in Canadian Orchards," "The Fruit Marks Act" and "Cooperation"; Mr. Macoun, on "Guides to success in fruit culture," "The work at the Farms," "Strawberries," and answered many interesting questions in the question box.

The president's address was one of those comprehensive reviews of the horticultural

situation for which Father Burke is noted. Its salient note was the one advocating co-operative packing houses for the Island where the grading, packing and storing of apples would be done, as well as jamming, canning and evaporating. Attention was drawn to the value of a Canadian congress of fruit growers. A touching moment was reached when the president asked the assemblage to stand and attest its condolence with the families of the members who died during the year.

Among the subjects on the program, all of which proved interesting, were: An address by Dr. Fletcher, of the Central Experimental Farm, Ottawa; Pollination of Apple Blossoms, T. Ross, B. A.; Cranberry Culture, C. R. Dickey; Commercial Orcharding, Senator Ferguson, who is a most enthusiastic fruit grower; Plum Culture, D. J. Stewart; Some Difficulties of Island Horticulture, John Johnstone, and Further Notes on My Experimental Orchard, W. C. White. Demonstrations were given by representatives of the Dominion Fruit Division of the proper grading, packing and marking of fruit for the home and export



Fruit Exhibit at the Recent Convention of the Nova Scotia Fruit Growers' Association.

(Photograph taken specially for *The Canadian Horticulturist*.)

trade. Several of these papers will be published in *The Horticulturist*.

Among the prominent people at the convention were: Senator Robertson, the

Lieutenant Governor, who attended two sessions and spoke twice; Mayor Kelly, Alex. Martin, J. J. Hughes, M. P., and others.

(Continued on page 30.)

## NOVA SCOTIA FRUIT GROWERS ARE WIDE AWAKE

THE annual convention of the Nova Scotia Fruit Growers' Association was held at Windsor, N. S., during the week of December 5. Fine addresses were presented throughout the sessions, a large number of interesting and profitable subjects being discussed by experts in various lines.

The fruit exhibits were one of the best features. The Ontario exhibit was the same as shown at the Toronto Industrial Exhibition, it having been placed in cold storage immediately after that exhibition. A very creditable display was made from Prince Edward Island, consisting of 18 different varieties, while British Columbia was represented by four varieties. The New Brunswick exhibit, unfortunately, went astray while in transportation. About 20 varieties of Nova Scotia apples were displayed, making the finest collection on exhibition. The Elwanger & Barry Nurseries, of Rochester, N. Y., showed the best collection of pears ever exhibited at Windsor.

The officers chosen at the convention for the ensuing year were: President, Ralph S. Eaton, of Kentville; vice-president, John Donaldson, Port Williams; secretary, S. C. Parker, Berwick, and treasurer, G. W. Munro, Wolfville. The treasurer reported a balance on hand December 1, 1904, of \$1,893.36, which with the government grant added gave the society a balance of \$2,100. The secretary explained that \$750 was received for the Horton school equipment, when it was turned over to the new government college at Truro.

The president, Mr. Ralph S. Eaton, gave an interesting address. "The past season,"

he stated, "was a rather discouraging one to Nova Scotia fruit growers, following, as it did, the best year they have ever had. The spring of the year opened with marked freedom from diseases in orchards of any kind. Until nearly the middle of June the weather seemed so like that of the previous year, most growers sprayed only once, hoping for a duplicate of the season of 1903 in regard to the quality of their fruit. However, the black spot made a fearful inroad, especially in the greater part of King's county, more particularly on Gravensteins, Spys, Ben Davis, Baldwins, Russetts, and others. The action of the government in sending, as an object lesson, a power sprayer into the section was a commendable one." As the experiment cost the government but little, each orchardist having paid five cents for each tree sprayed, Mr. Eaton expressed a hope that the experiment will be repeated. A thoroughly successful trial in Hants, King and Annapolis counties, he believed, would be worth thousands of dollars to the industry.

The quality of the fruit this year has not alone been disappointing. The first of July the crop promised even heavier than last year, the largest record being 600,000 barrels, but on account of dropping of the fruit in the summer, lack of size and discount in quality, it is doubtful if Nova Scotia shipped half that number this year. The plum crop was rather light, and peaches were practically a failure.

### AN IMPORTANT MOVE.

The association took the initiative some six years ago in moving for the federation of the schools of agriculture and horticult-

ture into a provincial college. Circumstances led to the establishment of an institution at Truro the past summer. An experiment is again being made with a sailing vessel for the ocean freighting of some apples by the loading of the barque Skola at Wolfville. The condition of the cargo on arrival is watched with interest. Referring to future business Mr. Eaton stated a

retrospective glance might be in order. In 1897 President Bigelow said, "The time has come when we must base our calculations for apple crops at not over \$1 per barrel." Not until this year has the price approached this figure, and even this year, with a big crop in all apple countries, the buyers did not give more than \$1.25 to \$1.50 per barrel.

(Continued on page 44)

## A FAR NORTHERN FRUIT EXPERIMENT STATION

AUG. DUPUIS, DIRECTOR FRUIT EXPERIMENT STATIONS FOR QUEBEC.

THE fruit station established at Gaspé Basin, Gaspé county, Québec, by the Québec government in 1898, on the farm of Mr. Wm. Clark, has been successful beyond my expectations. The orchard comprises two and a half acres and is in a most healthy and vigorous condition. The apple trees bear good crops of fine apples of the following varieties: Yellow Transparent, Tetofsky, Duchess of Olds, Alexander, Wolf River, Wealthy, and English Golden Russet. The Yellow Transparent is a fall apple, while the Duchess, a winter apple, keeps till February. The Wealthy is a late winter. Downing gooseberries and Cuthbert raspberries yield great crops.

The orchard is protected from the great winds of the gulf by a hill, and from all sides by rows of deciduous and evergreen trees planted as wind shields. In plums the little Mirabelle (of France) and the Reine Claude de Montmorency (of the is-

land of Orleans, near Québec) are the only two varieties that have thrived when grown on their own roots and not grafted. As this orchard is in nearly the 49° of latitude, it is, I believe, the most northern fruit plantation on the continent.

Two thousand apple root-grafts of the above named varieties planted in nursery rows in 1900 have grown and prospered. Not quite 20 per cent failed. Mr. Clark sold most of the trees last year to farmers in the neighborhood, teaching them how to cultivate the trees and how to protect them.

This successful experiment in the far north has induced Mr. Henri Menier, of France, to experiment on a large scale on the island of Anticosti. He bought fruit and ornamental trees last year at the Village des Aulnaies Nursery to the value of over \$1,000, and will spare no expense to obtain success in his experiment. Trees bloom in Gaspé by June 20.

THE SCARLET CRANBERRY. I was interested in the notes on the Cranberry Pippin apple which appeared in the December issue of *The Canadian Horticulturist*. Have any of your readers made a comparison between the Cranberry Pippin and the Scarlet Cranberry? I would greatly appreciate information in regard to the origin and chief characteristics of the Scarlet Cran-

berry.—(S. A. Beach, Horticulturist, Geneva Experimental Station, N. Y.)

The sulphur, lime and salt wash, full strength, California formula, thickened to the consistency of cream, with fresh cow dung, I find an almost sure remedy against mice. Put it on with a whitewash brush.—(S. J. Rutherford, Québec.)



# QUEBEC FRUIT GROWERS IN ANNUAL CONVENTION

HAROLD JONES, MAITLAND, ONT.

THE twelfth annual winter meeting of the Quebec Pomological and Fruit Growing Society, from the point of value, was one of the most successful in the history of the society. The meetings took place December 14 and 15 at Ayer's Cliff, Que. The speakers had been carefully chosen and were men well qualified to deal with the topics under discussion. Their addresses were selected with careful consideration to their special value to the Quebec fruit grower and farmer.

It is to be regretted that a larger number of the farmers around Ayer's Cliff did not avail themselves of this excellent opportunity to receive information on fruit growing. Those who did attend could not but appreciate the effort made to make the meetings both beneficial and entertaining.

Owing to press of business, Mr. Norman E. Jack, president of the society, was not able to attend, but the able vice-president, Mr. Fisk, of Abbotsford, warmly welcomed everybody to the meetings. A valuable paper on Cauliflowers and How to Grow Them, was given by Mr. R. Brodie, of Westmount, Que. This paper is published in full in this issue of *The Horticulturist*.

Mr. W. T. Macoun, Horticulturist, Experimental Farm, Ottawa, followed with an exhaustive and valuable paper on the cultivation of potatoes. An extract from this paper is also published in this issue of *The Horticulturist*. The discussion brought out the fact that early and frequent spraying with Bordeaux mixture and paris green easily doubles the crop and that the perfect beetle and hard shelled bug does not do much if any damage. If the larvae or slug is killed when young the crop will not be injured.

Prof. G. Reynaud, Horticulturist, La Trappe, Que., spoke in French on some causes of unsuccessful fruit culture. His remarks were listened to with a great deal

of interest by those familiar with the language.

A practical address on fruit growing in connection with general farming was given by Mr. Harold Jones, of Maitland, Ont., whose remarks caught the attention of the meeting and led to a lively and interesting discussion. This address will appear in the February issue of *The Horticulturist*.

Prof. Waugh, of the Massachusetts Agricultural College, Amherst, Mass, as is always the case, was the life of the meeting. He gave a valuable talk on dwarf trees, their uses, propagation and management. The pleasure and profit that may be derived by growing apples and pears in large quantities on small areas was clearly shown. The quality of the fruit is superior to that grown on standard trees of the same variety. Dwarf trees come into bearing at from one to three years after grafting, which makes them valuable to plant between standards while waiting for these trees to come into bearing.

## AN EXHIBIT OF FRUIT.

On the fruit tables were shown about 80 plates of apples. It was a surprise to the visitors from Ontario to see such fine samples and also to see such varieties as King, Spy and Ben Davis grown to perfection. Mr. Fisk, of Abbotsford, exhibited 10 plates, among which were very fine samples of Lawver, Ben Davis and Fameuse. Mr. J. B. Edwards, of Huntington, had 15 plates, which won him much credit, his Wolf River, Spy, King and Johnathan deserving special notice. Six plates, with some very fine specimens of Kings, were shown by Mr. Brodie.

Other exhibitors were Messrs. Asa Johnston, 16 plates, including fine specimens of Bethel, Spy, Baxter, Edghill and Fameuse; Wm. Craig, winter sweet crabs and some fine cranberries; and Mr. Rowell, 15 plates of fine Wealthy, Wolf River and Nodhead.



**Ralph S. Eaton, Kentville, N. S.**

The new president of the Nova Scotia Fruit Growers' Association, Mr. Ralph S. Eaton owns probably the largest orchard in Canada. It contains 25,000 trees, including 15,000 apple, 6,000 plum, 2,000 cherry, 1,000 peach, 500 pear, and 500 apricot and quince. A view of a section of this orchard appears on the front cover of this issue. A description of Mr. Eaton's orchard and methods will be published in an early issue of *The Horticulturist*.

Messrs. Hichcock, Carter, Peck and Prof. Macoun also exhibited plates of fine apples, principally of the varieties mentioned above, with the addition of Milwaukee, La Victoire and Canada Baldwin, all of them being varieties of promise.

The directors, reporting for their several divisions, stated little or no planting was done during the past year. The only insect of note was the railroad worm, which caused some damage in Mr. Shepherd's orchard, and others adjoining, near Como, Que. The spot injured some Fameuse, but the damage was not serious. No spraying was done in the majority of orchards, but those that did spray were satisfied with the results.

Prof. W. M. Munson, of the University, Orono, Maine, lent his valuable aid by giving an address, Horticultural Education. The value of practical education in connec-

tion with science was pointed out, and that nature study is one of the most important links in agricultural training. In the past there has been too much luck and not enough intellect in farming. Nature will do a certain amount by herself, but it rests with man to enhance the production. Colleges are maintained to help get the boys and girls of our country out of ruts.

The afternoon session of the last day was given over to Messrs. J. F. Scriver, Fruit Inspector; F. L. Kenny, of South Hero, Vt., and Harold Jones, of Maitland, Ont. Mr. Kenny held his audience with an able address on fruit growing compared with other farm pursuits. This led to an informal and interesting discussion.

Thursday evening brought out a paper by Mr. W. H. Dempsey, of Trenton, Ont., which dealt with the question of fruit growing for profit. This address was listened to with the closest interest and attention, as those present knew they were listening to one of the largest and most successful apple growers in the province of Ontario and that every word he uttered was worth listening to. A copy of this address will appear in a later issue of *The Horticulturist*.

The meeting closed with an address by Mr. J. C. Chapais, St. Denis, Que., who told the fruit growers in Quebec what he saw and heard at the Fruit, Flower and Honey Show in Toronto, Ont., in November, and his able account convinced those present that he was endowed with a wonderful pair of eyes and ears combined with a conceptive and ready mind.

IN TRAVELLING over this section of the province one is astonished that there are so few orchards when there are so many suitable locations available for planting. Many eastern farmers are, thereby, denied this health-giving fruit or obtain it at a cost much greater than the cost of production. —G. H. Hutton, Grenville county.

# ORCHARD MANAGEMENT IN NEW ENGLAND\*

PROF. W. M. MUNSON, UNIVERSITY OF MAINE.

**T**HERE are certain general factors which control orchard management in all countries. Briefly summarized, they are: Tillage, fertility, pruning, varieties, propagation and parasites.

The soil is a storehouse for plant food, and the object of tillage is to make this food available. For this purpose the physical condition, or the texture of the soil, is of the greatest moment. Most soils contain an abundance of plant food if the soil particles are sufficiently minute to allow the roots to lay hold of this food readily.

Plants take their food only in the form of solutions, which are absorbed by the root hairs, carried up through the tissues of the plant to the leaves, where they are digested; after which they are returned for the building up of the tissues and the formation of fruit buds. The root hairs lay hold on the film of moisture which surrounds each particle of soil, rather than upon the free water between the particles. For this reason it is of the greatest importance that the number of particles be as great as possible, thereby greatly increasing the area from which the food may be obtained.

Water which falls during the growing season is entirely inadequate for the growth of plants during that season, hence it is important that some provision be made for storing moisture which falls at other times. This can best be done by making the soil loose and porous, that it may act in the same way as does a sponge.

Besides providing a storage reservoir for moisture, it is necessary to prevent, so far as possible, the natural evaporation, in order that the water with the plant food in solution, may be forced to escape through the medium of the desired plants. The appearance of grass growing by the side of an old log or stone, as compared with that

at a little distance away, is a good illustration of the value of a mulch in conserving moisture. The best mulch or blanket for this purpose is a thin covering of dry earth, such as is provided by shallow cultivation.

## THE FERTILITY FACTOR.

The value of tillage in aiding chemical processes by warming the soil, admitting oxygen and decomposing organic matter, is self-evident, and a simple statement of fact is sufficient. Any land which will grow good farm crops will maintain a fruit plantation, but profit in fruit growing lies in securing superior quality. The amount of plant food to be added in any given case will depend on the amount of increase of profit which will result from such treatment. The successful merchant is the one who forces trade. The successful fruit grower is the one who produces the best and finds a market for it.

To get the best results keep the land at work. Weeds do not run out the land, but they use plant food for purposes which are not desired. The best treatment for weedy land is to give it thorough cultivation and to use more plants of a desirable character. The weedy farm is, as a rule, a poorly farmed farm.

## THE PRUNING FACTOR.

A tree is essentially a colony of individuals among which there is a constant struggle for existence. If left to nature the strongest, or those having the best position on the tree will survive, but to get the most satisfactory results the orchardist must prevent this natural struggle and give those branches which he desires to favor a better opportunity for life. The cutting of large limbs is not necessarily injurious to a tree, but it is advisable to go through the orchard every year and thus, as far as possible, avoid the necessity of removing large limbs.

\* Abstract of an address delivered at the annual winter convention of the Quebec, P. M. and Fruit Growers' Association, held at Ayer's Hall, Quebec, Dec. 14, and 15.

Pruning may actually stimulate the growth of trees by throwing the vitality into the remaining branches, exciting a more vigorous growth and in turn causing a reflex action on the growth of the roots. Many trees, if left to themselves, will over bear, and the removal of some of the branches may often be one of the best methods of thinning the fruit. The time and method of pruning will depend on the purpose in view, whether for shape, for increased growth, or fruit.

One of the most important elements in the value of pruning is that the owner is thus brought into closest contact with his plants. The true lover of plant life shapes and cares for his plants as thoughtfully and works out his ideals as carefully as he would train and guide a child.

Within the past few years there has been a marked advance in the interest and attention given to orchard management throughout New England. Many of the most extensive growers are practicing cultivation and the use of cover crops, while the value of spraying as a means of destroying insect and fungus enemies is recognized.

One of the most serious problems which confront the New England orchardist is that of the apple maggot, or trypet. Orchardists are united, however, in the belief that the faithful destruction of windfalls, and all affected fruit, will result in reducing the loss from the pest. For this reason many growers favor the use of hogs in the orchard. An advantage claimed for hogs is that, in addition to destroying the pest referred to and adding to the fertility of the

land, they serve a very important purpose in the way of cultivation. Important object lessons in the renovation of orchards, by the use of hogs, even in the absence of an application of specific fertilizers, may be seen in many of the orchards in Maine.

At the Maine Agricultural Experiment Station an important investigation as to the relative merits of cultivation as compared with mulching the trees, and also the relative merits of commercial fertilizers and barn manures, is being conducted. The results of this work thus far indicate a decided advantage in favor of treatment by cultivation.

The leading commercial apple in the orchard centers of Maine is the Baldwin; although Tolman, R. I. Greening, Roxbury Russet, Northern Spy and Ben Davis are received with favor by many. There is a general belief that the Baldwin gives the most satisfactory results when top grafted on some stock of known hardiness, while some would use native seedlings. There is probably no doubt that some strong growing variety like Tolman, Northern Spy or Stark is to be preferred, because of the lack of uniformity among seedlings.

There is a strong tendency to increase the planting of orchards in Maine and to more fully enter into a friendly competition with our Canadian friends in supplying the markets of the mother country. We must admit, however, that Canada is very much in the lead in so far as the control of the marketing is concerned, and it is to be hoped that New England will profit by the experience of Canadian growers.

There is plenty of room in eastern Ontario for the development of the fruit industry both for immediate consumption in the homes on the farm, and as a means of materially increasing the farm revenue.—(G. H. Hutton, Grenville county, Ont.)

**A Rack for Hauling Apples.**—Do you of the readers of *The Horticulturist* know of a convenient rack for hauling apples packed in barrels? A subscriber would like to read a description of one with, if possible, a diagram drawing.

## TESTING SULPHUR WASHES ACROSS THE LINE

PROF. LOCHHEAD, O. A. C., GUELPH.

**M**ESSRS. Parrott and Serrine, of the Geneva Agricultural Experiment Station, made three experiments in three different orchards to determine the effect of fall applications of various sulphur washes upon fruit and leaf buds, and the comparative values of these sprays for the San Jose scale treatment. The results obtained in these orchards were not alike and showed considerable variation in the effect of the treatment upon leaf and fruit buds.

In orchard No. 1 the average loss of blossoms on the peaches was 72 per cent., on the plums about 83 per cent. The loss of leaves on the peaches was about 68 per cent., and on the plums about 58 per cent. In orchard No. 2 the plum blossoms were reduced by 10 to 50 per cent., with slight edgery of the foliage. In orchard No. 3 the sprayed trees were unaffected by treatment, and, in fact, they showed increased vigor.

### THE WASHES WERE EFFECTIVE.

With regard to the relative effectiveness of the different washes it may be said that all the washes tested proved effective. The experimenters make the statement that "the washes which are well suited to the needs of the average orchardist are the lime-sulphur wash, boiled by fire or by

steam, and the lime-sulphur salsoda wash, prepared without external heat." It would appear, therefore, that further experiments are necessary to prove definitely whether fall spraying is likely to be followed by injury to the trees. It may be added that in some experiments carried out by one of our Ontario fruit growers in the Niagara district the autumn spraying was decidedly injurious, not only to the blossoms and leaves, but to the limbs.

The Entomologist of the Connecticut Experiment Station, Mr. Britton, reports that he sprayed 800 trees in December as an experiment; and as a result of this experiment he is able to state that fall or early winter spraying gives good results. Both boiled and unboiled mixtures are used. He also states that the boiled mixture of lime and sulphur, using as much or a little more lime than sulphur is probably as effective and as inexpensive as any mixture for the ordinary orchard work. Of the mixtures made without boiling he finds that the potassium sulphide and lime is an excellent one for a few small trees and shrubs, but is rather expensive for spraying large trees, and that the lime-sulphur and sodium sulphide mixture is a promising one, worthy of further trial, and giving good results

## DISEASES OF PLANTS AND TREES

FRANCIS WAYLAND GLEN.

**A**RE trees and plants subject to the attack of malignant, contagious, epidemic diseases similar to such as cause the death in large numbers of men, women and children? My answer is: Yes, and I will give one of many facts I have learned from personal contact with trees and plants when attacked by such diseases. Between 1852 and 1858 cholera was prevalent in a certain section of Rochester, N. Y. The neighbor-

hood was badly drained and otherwise in an unsanitary condition, and the people used stimulants freely. As many as 50 persons died in a short time.

The same year we had a block of pear trees budded on Angiers quince stocks which we imported from Paris. They were very strong and vigorous. The land upon which we planted them was low, and the soil composed chiefly of decayed vegetable

matter, and not well drained. When the buds were one year old a large percentage of them were six feet high. The next year we cut them down as usual to force them to form branches, and at the end of the two years the majority of the trees were 6 feet high. I had occasion to go through the block daily to cut branches off for budding on quince stock.

In August I discovered one morning that some trees, which, the day before were perfectly healthy, had turned black, the sap in the body had also turned a dark color, and the trees gave out an unpleasant odor. I cut every one of them out and burned

them, assuming that the disease was contagious. Every night and morning I went through the block removing every diseased tree, and before the epidemic passed I cut out at least 2,000 trees out of the 5,000 in the block.

In the same year I had another block of pears on quince, the same age, but on well drained ground, which was not so rich. These trees made a growth of three and a half to four feet in the two years. The two blocks were within 1,000 feet of each other. There were very few deaths in the well-drained block. I had the same experience with plum trees.

## LATEST RESULTS FROM SPRAYING FOR SAN JOSE SCALE\*

PROF. R. HARCOURT, ONT. AGRIC. COLLEGE, GUELPH.

**D**URING the season of 1897 the San Jose scale was first discovered in the orchards of Ontario. Since that time the scale has caused serious damage and loss, especially to the owners of peach orchards; but, thanks to the energetic manner in which the matter was taken in hand by the Department of Agriculture, we are now able to say that methods for the controlling of this pest have been devised and are in operation and that the majority of the fruit growers recognize that the scale may be controlled and the vigor of an orchard maintained independent of its surroundings. It may not be possible to entirely eradicate the scale, and, like the potato bug, it may always be with us; but, just as the proper use of arsenical poisons may be used to control the latter, so the lime-sulphur wash may be used for the former and with equally good results.

One pleasing feature in connection with the application of the lime-sulphur wash is that it has greatly benefited the trees in other ways. To ascertain whether it is possible to still further cheapen and simplify the preventives for the scale the following experiments were undertaken:

In reporting the latest results from spraying for San Jose scale, I wish first to draw your attention to the trial of the relative efficiency of the lime-sulphur wash and the McBain Mixture. This test was made in the orchard of Mr. Bunting, St. Catharines, and under the auspices of a special committee appointed by the Fruit Growers' Association. The orchard selected consists of 65 thrifty growing but badly infested peach trees. Before the spraying was done each tree was carefully examined by Messrs. Bunting, Thompson and Healey, the members of the committee, and by Prof. Lockhead, and full notes were made regarding the condition of the scale on each tree.

Every other row was then sprayed with the lime-sulphur wash, and the intervening rows with the McBain Mixture. The application of the former was attended to by Mr. Bunting and of the latter by Mr. McBain. Both men were allowed to make the spraying as thorough as they saw fit, but nothing further was to be put on the trees until after they were examined by the committee. The lime-sulphur wash was the same as was being sold in the neighborhood

\* A paper read at the Annual Convention of the Ontario Fruit Growers' Association during November and which was crowded out of the November issue owing to lack of space.

at 90 cents per barrel, and the McBain mixture cost \$2.50 a barrel.

The trees were carefully examined by the committee about the middle of July and again about a month later, and later still by Prof. Lochhead; and the general opinion was that there was practically no difference in the efficiency of the two remedies. The cost of the McBain mixture, however, practically put its use out of the question, unless it was for a few trees where the lime-sulphur wash could not be procured.

#### OTHER WASHES TESTED.

The same day a barrel of the lime-sulphur and sal soda and a barrel of the lime-sulphur and caustic soda washes were prepared and applied on the trees of an adjoining orchard which were also badly infested with the scale. The former wash is one recommended by Dr. E. P. Felt, State Entomologist, New York. His formula and directions for preparing the mixture are as follows: Lime, 25 pounds; sulphur (flowers), 20 pounds; sal soda, 12½ pounds; water, 1 barrel. "Put 5 or 6 gallons of hot water in a wooden barrel, add the lime, quickly following with the sulphur and sal soda, and stir until the slaking is practically completed. It may be necessary to add a little cold water at intervals to keep the mixture from boiling over. After the violent action has ceased, cover the barrel to retain the heat and allow it to stand 15 to 30 minutes, dilute to the full quantity and apply." In our preparation of this wash we first stirred the sulphur into the hot water and then added the lime and sal soda.

The lime-sulphur caustic soda was originated with the Geneva Experiment Station, New York State. The formula and directions for preparing the wash are as follows: Lime, 30 pounds; sulphur (flowers) 15 pounds; caustic soda, 4 to 6 pounds; water, 1 barrel. "In preparing the wash, the lime was started to slake with six gallons of water, and while slaking, the sulphur, which

had just previously been made into a thin paste with hot water, was added and thoroughly mixed in with the slaking lime. To prolong the boiling of the wash, the caustic soda was then added with water as needed, and the whole mixture was kept thoroughly stirred. As soon as the chemical action had ceased the required amount of water was added, when the mixture was ready for use. Aside from the heating of the water, the cooking of the wash was done in a tub or barrel, and took from ten to twenty minutes. In some preparations, especially when hot water was used to start the slaking of the lime, not all of the stated amount of caustic soda was employed, but six pounds was the maximum."

In preparing this mixture we followed the same plan as mentioned with the former wash. The sulphur was first stirred into hot water and then the lime added. When the boiling ceased all the caustic soda was put in at once. The whole was thoroughly stirred to prevent caking on the bottom of the barrel. The caustic soda should be used in the granulated or powdered form to insure the best results.

#### WHERE THE TESTS WERE MADE.

Both the washes developed the characteristic color of the well boiled lime-sulphur combinations, and those present were delighted with the simplicity of the method of preparation. These washes were made and applied in the orchards belonging to the following gentlemen. Careful notes were made on the condition of the trees before the wash was applied. The orchards and tests were: Mr. Geo. Robertson, one barrel of lime-sulphur and sal soda, only two trees badly infested; Mr. W. C. McCalla, one barrel of lime-sulphur and sal soda, trees badly infested; Mr. Greffith, one barrel lime-sulphur and sal soda, one tree particularly badly infested; Mr. W. H. Secord, one barrel of each wash, trees all infested, worst ones marked; Mr. Tittrington, one



S. C. Parker, Berwick, N. S.

Much of the success of the work of the Nova Scotia Fruit Growers' Association has been due to the energetic and capable work of its officers, of whom one of the best is the secretary, Mr. S. C. Parker. At the December convention of the association Mr. Parker was unanimously re-elected secretary.

barrel of each, trees badly infested; Mr. McArdle, one barrel of each, trees badly infested.

These orchards were visited in July and August by Prof. Lochhead, J. Fred. Smith, Robt. Thompson, P. W. Hodgetts and myself, and in every case little or no difference could be seen in the amount of living scale between the trees sprayed with these mixtures and those on which the boiled lime-sulphur washes had been used. Some of the members of the committee were inclined to think that the mixture containing the sal soda gave rather better results but here was very little difference.

Of this season's work Dr. Felt reports the effect that excellent results were obtained from the use of the lime-sulphur and sal soda mixture. The Geneva Experiment Station workers state that the results obtained from the wash were good, but not uniform. At the New Jersey Experiment

Station, Prof. Smith reports that this wash has been quite effective, but that it is not so good as the bottled mixture and costs a little more. The indications from this year's experiments are, that if properly made, a useful material is obtained.

The ease with which these mixtures may be prepared will greatly recommend them to the small fruit grower who has not sufficient trees to warrant the installing of a steam boiling plant. It cannot, however, be too strongly emphasized that the greatest care must be exercised in the preparation of these washes. Only freshly burned lime of a quick slaking variety should be used and it must be handled in such a way as to recover the maximum of heat from the slaking. In order to accomplish this hot water should be used to slake the lime. In preparing the lime-sulphur caustic soda wash the caustic soda must be added in the powdered form, as in this condition it dissolves more quickly and causes more violent boiling than when in the big lumps.

Regarding the cost of these washes, as compared with that of the boiled mixture, it is impossible to give exact figures, for the cost of the boiling will depend on the efficiency of the steam plant used. As about the same amount of lime and sulphur are used in all cases, it practically leaves the cost of the boiling to be compared with the cost of the sal soda or caustic soda used, and the required quantity of these to make a barrel of the mixture can be obtained for 25 cents.

There is no doubt any of these mixtures will destroy the scale, but every part of the tree must be covered with the wash. Any part left uncovered acts as a seed bed for the reinfestation of the whole tree. As it is practically impossible to cover every crutch and crevice on the tree, the use of the lime-sulphur washes may not exterminate the scale, but there is no doubt that when they are properly applied the pest can be controlled.



## FRUIT MATTERS IN MICHIGAN DISCUSSED

J. L. HILBORN, LEAMINGTON, ONT.

I HAD the pleasure and profit of attending, as representative of the Ontario Fruit Growers' Association, the annual meeting of the Michigan State Horticultural Society. The meetings were held December 6, 7, 8 at Benton Harbor, a beautiful town of some 10,000 inhabitants, situated on the eastern shore of Lake Michigan in the midst of the Michigan fruit belt.

Three years ago I visited this famous fruit section and spent a day or two inspecting the numerous peach orchards and vineyards for which the locality is noted. Among those visited was the much lauded and finely kept 200-acre orchard of Mr. Roland Morrall, who believes in and practices the most thorough cultivation and pruning. I liked his system of pruning the best of any I have seen. He has few main branches and these are regularly shortened quite heavily, making very stinky, strong trees, which have produced many very profitable crops.

There are many other very fine orchards in that vicinity and the best kept vineyards I have ever seen. The latter are all trained on horizontal trellises and most of them are carefully looked after. As the fields are quite level in the vicinity just south of Benton Harbor, where most of the grapes are grown, they present a very attractive appearance. We also visited a number of fine large peach orchards in the vicinity of Fenwell and Douglas, nearly all of which are headed much lower than they are usually grown in Canada and annually cut back quite heavily.

The 1904 annual meeting was a decided success. There was a nice display of plate fruit of good quality. The superintendent of the South Haven Experimental Station, Mr. T. A. Farrand, had a fine display of fruits grown there, including a dozen or so plates of nuts. He gave us a valuable address on varieties of apples, peaches, plums, cherries, nuts, etc., which they had tested.

Prof. W. J. Green, horticulturist of the Ohio station at Wooster, gave an interesting address on mulching orchards. He is strongly in favor of the sod mulch for orchards of all varieties of fruits. He prefers to have a sod field to start with and to dig good sized holes in the fall, planting the trees in the spring and mulching heavily a space four feet in diameter. The grass is mowed once or twice during the season and part of it is placed around the trees while they are young. It is left where cut after the trees get large. The speaker was well acquainted with the famous Hitching orchards, also several others handled in much the same way, which he claimed are entirely successful. They have been experimenting with that method for several years at the Ohio station, and the speaker claimed the results were very satisfactory. They tried it on a block of peach trees, cultivating half of it. The other half was seeded to grasses and the trees mulched. The latter grew as well as the cultivated portion and came through last winter in good condition, while the trees that were cultivated were all more or less injured.

A lively discussion followed the address and many theories were offered in objection, but the speaker claimed that the success of the orchards that had received this treatment was the best argument. The only real objections, he said, are danger from mice and fire. The former is overcome by removing the mulch directly against the trees and earthing them up. By exercising proper care there is not much danger of fire.

The meetings throughout were well attended and much interest was shown in each session. The writer received every attention and kindness from the officers and members of the society and was assured that they would send a representative to the annual meeting of the Ontario Fruit Growers' Association next year.

## ONTARIO GROWERS ADOPT RESOLUTIONS

AT the annual convention of the Ontario Fruit Growers' Association in November the following resolutions were adopted :

That the thanks of the association be tendered the sister society of Quebec for sending a representative, in the person of Mr. Chapais, to assist in our deliberations.

That the thanks of this convention be tendered to Mr. G. H. Powell, of the United States Department of Agriculture, for his attendance at our meetings and his valuable address on cold storage.

That the members of the Ontario Fruit Growers' Association have heard with sorrow of the affliction which has visited one of our oldest and most respected members, Mr. T. H. Race, in the death of his wife, and wish to express their sincere sympathy with him in the great loss sustained.

That this convention, representing the fruit growing interests of Ontario, desires to express its appreciation of the services rendered by the Dominion Department of Agriculture in inaugurating a system of crop

reporting in regard to fruit, and hopes the service will be continued and be extended.

That this convention urges upon the Minister of Agriculture for Canada the advisability of securing such legislation as will give the inspectors under the Fruit Marks Act, or other suitable officers, absolute control over the loading of apples on shipboard for export from Canadian ports.

That this convention desires to respectfully but most strongly urge the Parliament of Canada to so amend the Railway Act as to place express rates under the control of the Railway Commission as are freight rates.

That whereas there is reason to believe that in many cases the returns made to fruit growers by commission dealers do not represent the full amount of the prices realized by such dealers, therefore be it resolved that the Minister of Agriculture for Canada be urged to take such steps as may be necessary to place commission dealers under Dominion regulations with a view of wholly preventing or largely reducing such fraudulent practices.

## WHAT THE PEOPLE THOUGHT OF THE FRUIT, FLOWER AND HONEY SHOW

WHILE the Fruit, Flower and Honey Show was in progress a representative of The Horticulturist asked a number of the leading people present what they thought of the show. The following expressions of opinion were secured :

"I believe this is the beginning of a big annual affair."—(The President, R. J. Score, Toronto.

"The show is a decided success and ought to be continued. The general effect has been of a valuable educational nature. The citizens of Toronto ought to give it their fullest patronage."—(Edward Tyrrell, President Toronto Horticultural Society.

"A feature of the exhibition which I consider of great value is the opportunity it affords for instruction in the best methods of

grading and packing fruit, as shown by the expert packers from the Fruit Division. In addition to this the display of commercial packages and the fruit from the different provinces will serve to attract the buyers of fruit from our large cities, the adjoining Republic and the Old Country, which, if the show is continued, will develop a trade that is capable of almost unlimited expansion."—(W. H. Bunting, St. Catharines, Honorary President of the Ontario Fruit Growers' Association.

"The exhibit of flowers is the best ever made in Toronto. It is unfortunate the show could not have been held in a more suitable location and in a place of crystal construction, better lighted and adapted for such a purpose. As a convention city, and



### A Portion of The Fruit Stations' Exhibits at the Recent Provincial Show.

Among the most interesting features at the Provincial Fruit, Flower and Honey Show, were the exhibits made by the Ontario Fruit Experiment Stations, portions of which are here shown. The grapes on the table in the foreground were a fine collection shown by Mr. Murray Pettit, of Winona. The exhibits on the raised stand were the property of Mr. Linus Woolverton, of Grimsby, the superintendent of the stations, and Mr. A. W. Peart, of Burlington, both of whom showed excellent specimens of many varieties of fruit. (Photograph taken specially for *The Canadian Horticulturist*.)

in view of future requirements, such a building is one of Toronto's most pressing needs."—(Robert W. King, Toronto.

"The exhibition is the best of the kind we have ever held. The exhibit of commercial boxes is a most interesting and promising feature of the show. This feature can be greatly developed, as can the commercial side of the exhibition. I would like to see it arranged so that exhibitors could take orders for fruit."—(Linus Woolverton, Grimsby, Superintendent of the Fruit Experiment Stations.

"This is the best show ever held in Toronto. More florists from other cities have visited the exhibition than ever before and all have been delighted."—(Thos. Manton, Eglington.

"The people who attended this exhibition appeared to be a better class than attended our previous shows."—(W. G. Rook, Toronto.

"The citizens of Toronto ought to be ashamed of themselves for not patronizing this show in larger numbers. Without exception the exhibits of fruit, flowers and honey are the best ever seen in Toronto."—(H. R. Frankland, Toronto.

"I am delighted with the exhibition. Every department is strong and I think the organizations interested should feel greatly encouraged."—(R. B. Whyte, Ottawa.

"It is a grand affair. For a start off we could not look for anything better. The bee men are satisfied."—(D. Anguish, Scottsville.

"A perfect success. Some Old Country people tell me they never saw anything like it. A show of this kind is just what is needed. It affords an opportunity for the growers to meet and bring out their ideas. The management has been quite satisfactory under the circumstances and I trust the show will continue."—(Alex. Biggs, Burlington, Ont.

"A grand success. The members of the Bee Keepers' Association have passed a resolution expressing the hope that the show will be continued another year. If it is we will be with you again."—(H. G. Sibbald, Claude, Ont., President of the Ontario Bee Keepers' Association.

"The exhibits are excellent. The show has been a decided success and should be continued."—(W. T. Macoun, Central Experimental Farm, Ottawa.

## COOPERATION AMONG ONTARIO FRUIT GROWERS

THE following article is the continuation of the account, which started in the December issue of *The Horticulturist*, of the discussion on cooperation, held at the recent convention of the Ontario Fruit Growers' Association. Mr. D. Johnson, of Forest, had been asked what price growers in his section, who did not cooperate last fall, received for their apples.

Mr. Johnson: "Very few growers were able to sell their fruit at any price, but those who did sell realized 50 to 60 cents per barrel for their firsts and nothing for their seconds. Some only obtained 10 to 12 cents per bag for No. 1 apples."

Question: "What did you do with your waste fruit?"

Mr. Johnson: "It was sold to two evaporator firms and we obtained 15 cents a bag for the peelers and 5 cents for chops. One of these evaporators is located at my place and handles 100 bushels per day; the second one is at Forest and is managed by a company which handles 500 or 600 bushels a day."

Question: "How much fruit did you handle?"

Mr. Johnson: "About 38 or 40 carloads. We also cooperated in securing our barrels. We bought our own material and employed a cooper. The barrels were of excellent quality and cost us only 28 cents each. At the last of the season, when our supply was exhausted, we tried to buy some barrels from coopers, and although we enquired everywhere we were unable to obtain any for less than 45 cents per barrel and they were not nearly as good as those we had made ourselves."

"Some one, this afternoon asked how a man could be expected to sink his own identity when he joins an association of this kind. The members of our association sunk their identity and have never regretted it. Occasionally some of the growers place their initials on their barrels, but the initials

never appear in the invoices or bills. We are well pleased with this year's work and look forward with confidence to next season. One of the benefits that has resulted from handling our fruit in this way has been that the steamship and railway lines have been anxious for our business and have made material concessions to obtain it. Mr. Sherrington's suggestion that the growers should have a central organization is a good one. I have thought that if a central station could be established, say at Toronto, so that the various local associations could all ship their fruit to it or arrange to have their fruit handled in bulk it would be a much better method than anything we have at present."

Question: "Did you pack in cases?"

Mr. Johnson: "No. We were young in the business and did not care to undertake too much the first year. I am sorry now that we did not ship some of our fruit in that way."

Question: "What was done with your culls?"

Answer: "We sent them to the evaporator and the returns were utilized to defray general expenses."

Question: "That seems hard on the man who had a lot of culls?"

Answer: "Yes, but we told such men that it cost more to handle their fruit."

### COOPERATION IN ONTARIO COUNTY.

A call was here made for Mr. Elmer Lick, of Oshawa.

"Here are," said Mr. Lick, "a great many difficulties before fruit growers when they try to cooperate. In our district the buyers combined and coaxed the growers to forsake the cooperative association, and we found it difficult to carry out our plans. There were many buyers this year and they offered the farmers good prices."

Question: "How much was offered?"

Mr. Lick: "As high as \$1 per barrel in some cases, but in the end the growers were

unable to obtain this amount when the buyers settled."

"A few of us," continued Mr. Lick, "combined and shipped our fruit together, and I believe we are going to obtain better prices than the growers who sold privately. Now that we are forming so many cooperative associations throughout the country it has struck me that we need a central head to combine and watch the interests of all. Such a body might be called The Ontario Fruit Growers' Union, and the various subdivisions might be called the Forest Branch, the Whitby Branch, etc."

Mr. Sherrington: "It has been intimated that the reason the fruit growers in the Forest and Walkerton districts have been able to cooperate was because the buyers did not oppose the movement. That was not the case in our district. The buyers tried the same game with us that they did with Mr. Lick. Some of our growers were coaxed off, but they were afterwards sorry and were glad to come back. It was the same at Forest."

#### COOPERATION IN THE NIAGARA DISTRICT.

Mr. Robert Thompson, of St. Catharines: "The fruit growers in the St. Catharines district became incorporated several years ago and lately we have been devoting our efforts largely to improving the freight service. Last year, in spite of the heavy crop of plums, we obtained fairly satisfactory prices, and we now find that our members expect higher prices for their crops than they used to before we cooperated. Last spring we held a number of meetings along the line of the railways to urge greater cooperation, but as this year's crop has been rather small and the prices good we did not push the matter as we would otherwise have done. We do quite a little in the line of cooperative spraying. In the township of Louth the fruit growers bought an outfit and did good work. In our township some of the threshers took charge of the work and

the growers agreed to pay their share of the expense. The results of this spraying have encouraged the growers to grow more fruit. The response of the trees to this treatment has been very encouraging as the spraying not only prevents but acts as a remedy for the scale and has an equally beneficial effect on the curl leaf and other kindred diseases. The results have greatly encouraged the growers.

"We have also cooperated in the purchasing of paris green, blue stone, boxes, etc., and, thereby, have made a nice saving. When purchased in large quantities we find that the quality of the spraying material secured is much better than where growers buy individually in small quantities.

"In regard to the trial shipment of fruit to Winnipeg I may say that the fruit growers in the vicinity of St. Catharines are sufficiently well satisfied with the results that they are willing to continue such shipments provided proper oversight is given and the interests of growers are safe guarded at the other end."

Question: "What is the largest district that can safely be included in a cooperative association?"

Mr. Sherrington: "About ten miles. I am not in favor of districts that are too large. Where the district is too large I would like to see a number of smaller associations put in charge, which in turn would ship to a large central station. I am strongly in favor of F. O. B. sales. When growers do not know what they are going to obtain for their fruit it keeps them on the rack. Buyers with whom I have talked assure me that they are willing to do anything they can to assist the formation of cooperative associations but they desire to be assured of the proper grading of the fruit."

#### THE BURLINGTON FRUIT GROWERS ASSOCIATION.

The methods that have been adopted by a number of the fruit growers in the vicinity

of Burlington were described by Mr. A. W. Peart. "A small number of the fruit growers in my district," said Mr. Peart, "have cooperated in a general way. By doing so we find we can buy our supplies much cheaper and also obtain better shipping rates. Each individual shipper places his name on his own shipments in addition to which they are branded with the common brand of our association, which is simply a number. The buyers in Great Britain make separate reports in regard to the prices realized by each man's shipments. In this way we are able to keep track of the amount due each grower. All our fruit is shipped in boxes and we find we make 50 cents to one dollar per barrel more by shipping in this way. Our boxes average four to the barrel.

"We find that it is cheaper to handle our fruit in this way on account of a saving in the cost of labor. In sorting and grading apples, women are able to do as much and in some cases more work than men and at one half the wages. The women will not handle large packages and were we to use large boxes we would have to employ men, which would cost more."

Question: "What is the size of your boxes?"

Mr. Peart: "Nine by 12 by 18 inches inside measurement. We have found this size works well as our growers obtain due credit for their shipments."

Question: "Is there anything binding in your association?"

Mr. Peart: "No, only our honesty. If we had a central packing house we would endeavor to arrange so that each man's name would continue to appear on his consignments of fruit."

Question: "Do you think it would be possible to grade your fruit to the satisfaction of your members?"

Mr. Peart: "No, that would be reaching the ideal."

Question: "If you found a man was shipping poor fruit is there any way in which you could prevent his using your brand?"

Mr. Peart: "We are very careful when taking in members. We will not allow a man to join our association unless we know he ships good fruit. The price each grower receives is the best safeguard we have that he will ship good fruit. We find it is a good one.

"When the market in the Old Country is not satisfactory we sometimes arrange to have our fruit stored. On some occasions fruit has been stored for some months. Our system works out well for late pears suitable for export. We have shipped without cold storage and have found that the pears arrived in good condition."

Question: "Do you send a man to Great Britain to watch your interests?"

Mr. Peart: "No, we simply consign our fruit to commission men."

Question: "Could not growers place a man in Great Britain to watch their interests?"

Mr. Peart: "Such an arrangement would be very difficult. The British firms, handling Canadian fruit, have been in the business for a great many years and are firmly established. Most of them have numerous connections in other cities and know how much credit they can give their agents and how long it is safe to let their credit run. Were growers to try to compete against these firms we would find it almost impossible to meet their opposition. Such a man, however, might be of great value in watching the prices at which fruit was sold, etc."

Mr. H. W. Dawson, commission merchant, Toronto: "I have made a study of this cooperative question and have reached the conclusion that apples handled through central packing houses with a common brand will do more to improve the trade than anything else."

## DISEASES OF THE GRAPE IN ONTARIO IN 1904 \*

W. T. MACOUN, HORTICULTURIST, CENTRAL EXPERIMENTAL FARM, OTTAWA.

**K**NOWING that rot was causing serious damage in a number of vineyards in the Niagara peninsula, I took an opportunity during September, to visit some of them in the hope of learning facts of value in regard to the diseases of the grape. Accompanied by Mr. W. H. Bunting, of St. Catharines, I visited his vineyard and others in the neighborhood of St. Catharines and found that Mr. Bunting had sprayed seven times and his fruit was only slightly injured.

When the grapes were the size of peas Mr. Bunting had bagged 1,000 bunches in order to find out if infection took place before that time. Most of the bunches thus bagged were perfect, but some had the black rot in various stages of development, showing that infection had taken place before the grapes were as large as peas. The Niagara grape was the variety most affected. Several vineyards of Concord near Mr. Bunting's were examined, but black rot had not worked to any extent in them. Brown rot was, however, found in one vineyard, but had not done much injury to the fruit. Another vineyard, containing about 15 acres, was visited, consisting principally of Concord, Brighton, Niagara, and Moore's Early. Of Niagara and Brighton there was scarcely a sound grape anywhere, and none of the bunches of Concord, even with manipulation, could be made fit for market. Moore's Early was not affected. This vineyard had not been sprayed.

The infection by the black rot as it appeared in the vicinity of St. Catharines was first noticed on the fruit as a round, brownish spot about the size of the head of a pin. This brownish appearance gradually spread over the surface of the berry, and by the time one-third of the surface was covered the original brown spot had become paler, showing distinctly the mark of infection. After the whole grape became brown, the

tissue gradually shrunk and dried, and when thus shrunken the fruit appeared black and prominently and irregularly ridged, the surface being covered by small black pustules.

### THE BROWN ROT.

The vineyards of Mr. Murray Pettit, of Winona, Ont., and others in that vicinity were also visited. No black rot was noticed at Winona, but brown rot was quite abundant, and while it had not caused such damage as the black rot, it had done considerable injury. The leaves of the vines affected with brown rot had a downy appearance underneath. The affected fruit first showed a brownish spot or patch on one side and a shrinking of the tissue. The brownish appearance spread all over the grape and the whole grape eventually shrunk into a hard shrivelled mass. When badly affected the vine loses a large amount of foliage. Powdery mildew was also found in these vineyards.

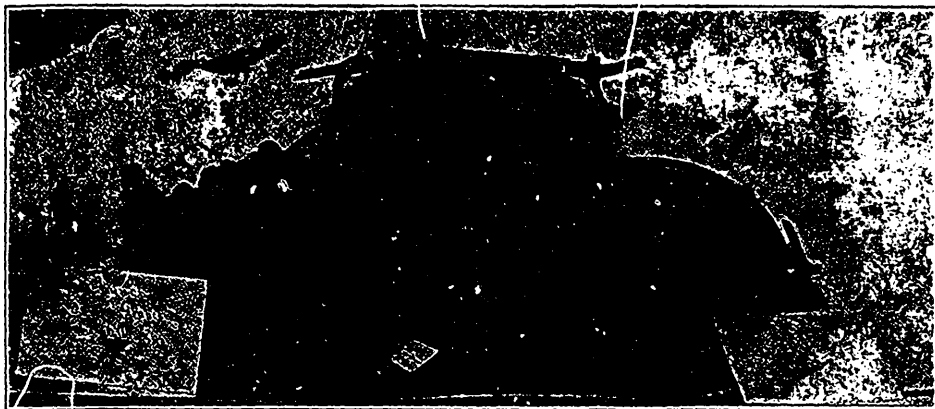
The Niagara grapes, both in Mr. Pettit's and adjoining vineyards, were affected this year with either a new disease or more probably, as Prof. Selby suggests, a condition caused by either powdery mildew or brown rot affecting the stem to which the grape is attached. This disease causes a hardening of the grape and gives it a pale, unhealthy color.

Another disease of the grape which was doing a great deal of injury at Winona was what we took to be the grape-leaf blight, a disease which has not received the attention that it deserves. This blight causes the leaves to wither and drop, thus preventing a free circulation of sap and the proper development and maturing of the fruit.

### PERSISTENT SPRAYING REQUIRED.

The diseases of the grape can be controlled by thorough spraying, but the work must be done persistently and carefully. The following are descriptions of some of

\* Extract from an address delivered at the annual convention of the Ontario Fruit Growers' Association held in Toronto, November 10-18, in connection with The Provincial Fruit, Flower and Honey Show.



### Two Monster Bunches of Grapes.

These two bunches of hot-house grapes were shown at the recent Provincial Fruit, Flower and Honey Show, by Mr. John Chambers, City Park Commissioner, Toronto, and attracted a great deal of attention. One weighed six pounds, two ounces, and the second four pounds, one ounce. The grapes were grown in an ordinary greenhouse. (Photograph taken specially for The Canadian Horticulturist.)

the most injurious diseases of the grape in Canada, with the best remedies known:

Anthracnose, Bird's Eye Rot, Scab (*Sphaceloma Ampelinum*). This is the only grape disease which has given any trouble at the Central Experimental Farm. It is difficult to control by spraying, but fortunately, only a few varieties have been affected, Lindley being the worst. This fungus attacks leaves, stems, and fruit, but it is on the fruit where it is most noticed. The disease is apparent in depressed patches extending along the stems, which checks the growth. There are also reddish brown patches on the leaves.

The stems of the clusters of grapes are frequently affected, and when the disease occurs there the fruit remains green and eventually withers, making an imperfect bunch. The disease on the fruit occurs in roundish brown spots with a purplish margin, giving somewhat the appearance of a bird's eye. Frequently spots unite and form a large irregular area. This is a very difficult disease to control, and though spraying with Bordeaux has not checked it to any extent, spraying before the buds open, before blossoming, after fruit has

set and ten days later with Bordeaux mixture, is recommended.

#### IS INVADING CANADA.

Black Rot (*Laestadia Bidwellii*). Up to recent years this disease was thought to have reached its northern limit south of Lakes Erie and Ontario, but during the last few years in Essex county, and more recently in the Niagara peninsula, it has caused much damage. The appearance of this disease has already been described, but something further may be said regarding it. The spores live over winter on the vine and in the affected grapes, and germinate when growth starts in the spring. The disease attacks the leaves and shoots, the leaves showing the disease in roundish reddish brown patches and on the stems, small, long shaped, dark brown, slightly depressed spots, on the surface of which appear the characteristic postules of the black rot.

When conditions are favorable the disease only requires 8 to 12 days from the time the spore germinates until the mycelium has run its course through the fruit and has produced new spores. Before the grape shrinks much in size the mycelium concentrates, as it were, in small masses underneath the skin,



and in these are produced the spores. These masses soon break through the skin, and the black pustules with the spores appear. The spores are scattered and they re-infect other fruit and vines. Although it is possible for a new generation of spores to be borne within two weeks, it requires favorable weather conditions for the disease to develop.

While early sprayings, in some cases, have not been found to give the results expected, the life history of the disease shows that it is wise to endeavor to destroy as many

spores as possible at or before the first infection. The first spraying should be made just after the fruit has set, the third and fourth at intervals of about a week—all with ordinary Bordeaux mixture. There should then be three sprayings with ammoniacal copper carbonate of soda Bordeaux. Although the disease will probably not be eradicated from a vineyard in one season, the more thoroughly the spraying is done the less trouble there should be. It is now 16 years since it was conclusively shown that Bordeaux mixture would control this

## GIANT SEEDLESS GOOSEBERRIES

SAMPSON MORGAN, RICHBOROUGH VILLAS, BROADSTAIRS, ENGLAND.

THE list of seedless fruits is being rapidly extended. The seedless orange was followed by the seedless plum, which was succeeded by the seedless apple, and now we have the seedless gooseberry. There can be no doubt as to the importance of this latest new comer, at least as far as the fruit trade is concerned. The seedless gooseberry will become popular, directly it is put on sale. Judging from the enormously increased consumption of berry fruits during recent years, it will readily take a firm hold upon the public taste.

When this fruit is well grown and ripened, few others surpass it. That is evident when we bear in mind the fact that during the past year gooseberries put up in flat punnets have sold as high as one shilling a pound retail and in quantity. Freed from its numerous seeds, the gooseberry of the future will command equal prices with mid-season grapes. The new berry is not

only free from seeds, but it has a remarkably thin skin, and the amount of acid in the pulp has been reduced materially. The fruit has been almost perfected.

The hard skin of the old-fashioned gooseberry has always been a defect, and one that has prevented most of the supplies marketed from being sold at more satisfactory values. A sweet gooseberry of full size, devoid of seeds, and with a thin soft skin, would be an undoubted acquisition to retailers and consumers. It should, in fact, soon equal the summer grape in popularity. The introducer claims that the seeds can in due time be eliminated from all of the fruits in commerce, and that it is just as easy to produce a seedless grape and pear as a seedless apple or gooseberry. It will surprise many of the public to be told that gooseberries are often grown as large as many kinds of plums. The new seedless berry is of mammoth proportions

The Cuthbert raspberry, notwithstanding its liability to kill back at the tips during winter, in a good season leads all others in quantity and quality. --(G. C. Caston, Craighurst, Ont.

Of the cooking cherries, nothing can compare with Dukes, a class of semi-sour red cherries that cannot be excelled for sauce and pies. --(Linus Woolverton, Grimsby, Ont.

## Growing Gooseberries

R. B. WHITE, OTTAWA, ONT.

THE chief difficulties in growing gooseberries are the hot weather and the liability to mildew. The gooseberry succeeds in Britain, and we should compare our conditions with those found there to see in what way we may overcome our difficulties. One of the first conditions in Britain is the rich soil. We here are apt to forget that farm soil in England has been cultivated and fertilized for 200, 300 or 400 years. Gooseberries must be well fed. I am inclined to believe in the theory that no insect or disease ever attacked a healthy, well-fed tree.

Another consideration is the moist climate. They never know in Britain what it is to have long spells of dry weather like we have, and the climate is more moist. Other conditions are a more equal temperature and the saltiness of the atmosphere.

With regard to temperature, it is difficult for us to get the moderate temperature that growers have in the Old Country. Some obtain it very satisfactorily by planting the bushes between trees, but certainly we can get fine gooseberries by so doing, and they should be in partial shade. The trouble which comes from excessive temperature is that the berries which are exposed to the sun are actually cooked. I have seen berries with a side scalded yellow by the sun, and then drop off.

It is rather a surprise to those who import plants from the Old Country to see the different styles they grow them in to what we do. The stems of some plants I had were about half an inch in diameter, about 10 inches long, and had roots about four inches across at the bottom. The advantage in that style of growth is, that you ensure the free circulation of air under your plants, and that, I think, is one of the great considerations in preventing mildew. I

have grown some of my plants in the American style, and, as a rule, those I start myself I grow in that style; but those from the Old Country are on the long straight stem style.

## A Yellow Blackcap

PROF. H. L. HUTT, O. A. C., GUELPH.

Is there a "Yellow Blackcap Raspberry" on the market? I have a Yellow Blackcap raspberry that grew up among my Blackcap raspberries. It bears a large crop of fruit, similar to Gregg in size, but of a beautiful yellow color and of an extra fine quality. The canes are very strong growers and of a peculiar yellowish color. It stood the severe cold of last winter, uninjured, and was unprotected.—(Chester Wiederick, Nanticoke, Ont.)

I do not know of any Yellow Blackcap which has been propagated for sale, although we had one here a few years ago which originated with Mr. A. E. Sherrington, of Walkerton. We grew it under the name of Mulatto, but after growing it a few years, discarded it on account of its poor quality. If yours is as promising as you describe it to be, we would like to get a few plants to give it a thorough trial, and would, of course, keep the plants under restriction if you so desire.

I am doubtful, however, if a Yellow Blackcap will ever be popular in the market. Yellow strawberries, yellow tomatoes, yellow raspberries, and most freaks of that kind are not in general favor in the market, although, no doubt, some are well worthy of propagation for home use.

To Grow Grapes of fine sample and good quality the first and most important point is short pruning to prevent overcrowding. The next is to apply sulphur about the last week in June or first in July to prevent mildew, and the next is to allow them to fully ripen before picking. If grape growers would comply with these conditions the market for grapes would require one-half more than it does and at higher prices.—(M. Pettit, Winona, Ont.)

## THE SPRING TRADE OF THE FLORIST \*

W. M. GAMMAGE, LONDON, ONT.

**O**NCE the Christmas holidays are over preparations for the next great event in the florist's year, that is Easter, must be attended to. The varying dates on which Easter falls must always be borne in mind so that you may govern your crop accordingly. For the Easter holiday a number of different varieties of plants, than those forced for the Christmas holidays, will be used. First and foremost are Easter lilies, either the *Longiflorum* or *Harrisii*.

For pot plants I consider the seven to nine-inch bulbs the best size. There is a difference of opinion how these should be grown; some contending that they should first be potted in a four or four and a half inch pot and then shifted up into six or seven inch pots, as the plants come along. Others again that they should be potted in the pot in which they are to bloom. The only difference that I can see is a slight economy of space in their early stages. From my several years of experience in growing and handling these I see but little difference in the result when handled by a careful grower.

There is one essential point to always bear in mind; from the time the lily starts growing it should never receive a check, for if it does any germs of disease that are lying dormant are sure to develop. Nor can you gauge its date of flowering with the same degree of success as if it had not received a check. There are a number of brands of *Lilium Longiflorum* on the market, but I do not think that there is any material difference between any of them.

### GOOD RULES REQUIRED.

The main object is to have good, sound, well ripened bulbs. Under the same conditions *Longiflorum* will come in if started from four to five weeks later than *Harrisii*. While the lily is the Easter flower *par ex-*

*cellence*, it is also the most expensive to grow and hardest for the store man to handle.

Other plants that will need immediate attention are hydrangeas, crimson rambler and hybrid perpetual roses; these should be brought in and started into growth in a moderate temperature, gradually increasing it, governed by the time at your disposal. Azaleas that are to be held for Easter should be kept in a cool house with an even temperature, free from drip or excessive moisture. Other varieties of plants, such as *metrosideros*, lilacs, rhododendrons, *dentzias*, etc., will not need to be brought in before the last week in February or the first in March.

Amongst the soft wooded plants the improved varieties of *pelargoniums* are going to take a prominent place as an Easter plant. These, if propagated during September and October and kept growing, will make fine bushy plants in five or six-inch pots, with six to ten large trusses of flower, by April. They are easily handled, very floriferous, and find a ready sale, giving customers as good satisfaction as an azalea or a crimson rambler, and will yield a better profit to the grower. *Spiraea*, or *Asi-bula*, are also a prominent Easter plant and are sold in large quantities. Dutch bulbs should not be lost sight of. Pans of *lacinths*, tulips and *narcissus*, in their various varieties, are sold in large quantities and are easily brought in at the right time, three weeks in a moderate temperature is all that is required to bring them to perfection.

Lilies of the valley and forget-me-not in pots and pans are also desirable. It will be necessary to prepare a few foliage plants, such as Boston and Pierson ferns, palms and rubbers, but let your main effort be to

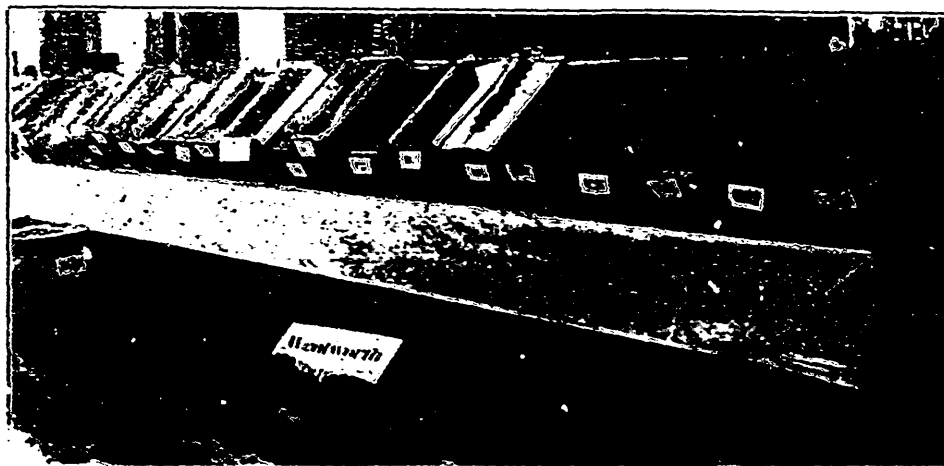
\* Extract from a paper read at the annual convention of the Canadian Horticultural Association, held in Ottawa last August.

prepare a stock of good flowering plants for the Easter trade. Of all the holidays in the year, Easter is the one on which most flowering plants are used. Its associations are of a joyous nature and all people, be they rich or poor, high or low, are imbued with the happiness attending the occasion and want something bright and cheerful, in keeping with their feelings.

Care in handling and delivering plants is necessary at all times. Easter Klies are very hard to handle without bruising. For shipping the best method is to allow the plants to become somewhat dry so that the flowers will be just a trifle wilted and each individual flower and bud wrapped in cotton batting. The plants should be firmly staked and each row should be cleated into the cases and a top cleat nailed across the case just below the buds and each row of plants tied to this cleat. If this work is thoroughly done you will have no drawback or rebates to make, for bruised flowers, while in transit.

There are a number of plants that I have not mentioned which might be brought in for the holidays, such as freesias, ericas, ardesias, capsicums, bouganvillia, etc. It is well, from year to year, to change the varieties that you are growing, dropping some that you find the demand decreasing on and adding others that are likely to create a demand. That the demand is increasing, and will continue to do so, is without a question of doubt.

The time was when all our efforts were concentrated in endeavoring to have a sufficient supply of cut flowers to fill the demand, but gradually plants are superseding this demand, and while at holiday times there will always be a demand, sufficient to take all the cut flowers that can be produced, the demand for both plants and cut flowers is not likely to be overdone, for some time to come, for the growth of our country is such that her ultimate possibilities are greater and grander than all the European and American States combined.



**An Exhibit of Commercial Packages at the Fruit, Flower and Honey Show.**

The exhibit of Commercial Packages including boxes and barrels, was one in which great interest was taken by fruit growers. The boxes and barrels had been packed with the greatest care and presented a fine appearance. A portion of the exhibit is also shown. (Photograph taken specially for The Canadian Horticulturist.)

## A PLEA FOR THE AMATEUR FLOWER GROWER

RODERICK CAMERON, NIAGARA FALLS SOUTH, ONT.

IT is presumed that the main object of all agricultural, horticultural, and even fruit, flower and honey shows, is the education of the general public to a higher standard of proficiency in the arts, being promoted. May I ask if, in the holding of exhibitions like the recent Provincial Fruit, Flower and Honey Show, we are on the right track?

Here they are, at our very doors, the old and young, male and female, with a grievance, which the professional florists can rectify if they choose; and depend upon it, if we are to attain excellency in horticulture as a nation, if we are to succeed in teaching the rising generation the art of beautifying our land as has, and is being done in Great Britain, this grievance of the amateurs must be attended to immediately and their wishes be complied with.

Were the exhibitors at the recent show amateurs? No they were all professionals, particularly in the floral sections. Only experts could grow such large flowers as those that were shown. We should show more equality and liberality towards the amateurs. Were they treated as liberally as the professionals at all fairs I am satisfied the results would be surprising, both in quantity and quality. Would this not be a benefit to the commercial florist? There is a prevailing notion among some commercial men that to keep the public in ignorance is a harvest to the florist. What a mistake! Does it not instill into Mrs. Smith a greater love for floriculture if she succeeds in growing a plant successfully? And does not ignorance discourage Mrs. Jones, who says "I have given up buying plants, they all die on me." Why? It is not lack of desire, but a lack of knowledge. As men of business we should also be men of instruction.

What is the method usually adopted at the Canadian National Exhibition in To-

ronto and all country exhibitions? No encouragement is offered the amateurs, all prizes are entered in the prize lists in such a way that they are open to the professionals to compete for. I question if any amateurs are on the committee that revise the prize lists, where they might be able to right things for themselves. This is not the worst feature; the prizes that are offered are principally for tropical plants, and professional florists' flowers, that cannot be grown successfully without the aid of glass structures, an expense that ordinary amateurs cannot afford.

Have any of us taken the trouble to examine the plants and flowers shown at our principal exhibitions? If we have can we tell how many had their names attached to them? I have seen ladies and gentlemen looking in vain to find the names on plants at the exhibitions held in Toronto each fall. What is the value of any flower without a name, that its history may be obtained. What educational advantage does such impart to the amateurs we are supposed to be helping? It should be made compulsory that all plants and cut flowers be correctly named, and that in a legible manner. Exhibitors who cannot comply with this request should be cut short ten points for every plant not named, or the unnamed plant should not be counted at all.

The prizes offered for fruit are of a generous nature and are worth trying for, apart from the honor, but the prizes offered for flowers and plants, that amateurs can grow, are of a very penurious nature. This should not be the case. It is of more value to the province for an amateur to grow a pine tree than the best tropical plant. Why then not encourage the growth of hardy plants more than has been done in the past? Why not encourage the growth of hardy plants by farmers' sons and daughters by offering prizes for the best essays upon

such? Would it not have a tendency to make them more familiar with what grows in their own surroundings? It has been said that the best and cleverest men and women in all other pursuits have been reared in the rural homes of meager circumstances. If this is true is there not a chance for the amateur to rise in the art of gardening even to the strength of a Groff, Dale or Dunlop? Give them a fair chance since gardening is the only recreation in

which a man of limited means may equal the owner of a thousand acres. Although the owner of only a single lot and ten cents worth of seeds, he can produce whatever he grows quite as well as my lord can his, and his pleasure in doing so may be greater to him than that of the nobleman to whom he may be laborer. Gardening offers so many subjects for an amateur's attention that he or she need not take up that which some one else excels in.

### A CHEAP GREENHOUSE \*

W. G. ROOK, TORONTO, ONT.

AT a meeting of the directors of our society the opinion was expressed that many of our members would have greenhouses if they knew they could be obtained for a small expenditure. As I have succeeded in building a small greenhouse at but slight expense my experience might be of value to others.

Early in the spring of 1900 I decided I would build a small greenhouse in which to grow the plants I wished to grow in my own garden. The snow was cleaned from the spot selected and soon the ground thawed sufficiently to enable me to commence building. Two sash, seven by eight feet, were purchased for \$3.75. The lumber for the sides, ends and benches and the glass for the end cost \$7.70. When this material was placed in position I had a greenhouse eight by ten feet.

There not being sufficient time for me to put in a heating system I formed one of the benches into a bin and filled it with fresh manure. This gave enough heat to keep out the late frosts and enabled me to grow 2,000 annuals besides my chrysanthemums for the fall. My success encouraged me to purchase another frame for \$1.75 and lumber for \$5.35 with which to build a pot-

ting shed and a place for the heater. This also being a success, I added in the spring of 1902 another eight feet, which gave me a house 12 by 25 feet. The total cost of construction, including even the latch on the door, was \$60. There was no expense for labor, as the building was erected and the heating system installed by myself with the assistance of a former member of this society.

The house is heated by a Globe heater with a Bigley coil inside. One one-and-a-half-inch flow runs from the coil to the greenhouse and then enters two one-inch pipes, which carry the water around the house and return it to the heater. A temperature of 50 degrees can be maintained at night with the weather at zero. During the winter between three and four tons of coal are required to heat the house. The heater and pipes used were bought second hand and cost, with all necessary connections, \$15, which is included in the \$60 mentioned.

In 1901 I grew about 2,000 annuals. In 1902 I again grew about 2,000 annuals and filled my hanging baskets and window boxes. During 1903 I grew 4,000 annuals and 500 chrysanthemums, and am now

\* Paper read from an address delivered before the Toronto Horticultural Society. Societies are invited to forward interesting papers read at their meetings.

growing carnations, smilax and forcing bulbs, besides keeping my stock over the winter. With a greenhouse such as this,

there is a possibility of securing an income from your labor by growing flowers for exhibitions, prizes, etc.

## THE WINTER CARE OF WINDOW PLANTS \*

WM. HUNT, ONT. AGRIC. COLLEGE, GUELPH.

**S**PRINKLING the foliage of most window plants with clear water on fine, warm, sunny days is desirable. Rex Begonias and even geraniums, however, do not like the leaves moistened too heavily. The true Rex Begonias would be better without any sprinkling or sponging of the leaves. Fuchsias, roses, heliotrope and most foliage plants, except coleus, like a sprinkling or sponging of their foliage every few days. This operation can be performed with a small rubber sprinkler, or the plants can be taken to a sink in a warm room and the foliage well sprinkled. As a rule all glossy, smooth leaved plants require frequent syringing or sponging with clear water. It removes dust, and counteracts the evil effects of the dry atmosphere prevailing in most dwelling houses.

Almost all window plants delight in a moist atmosphere, except a few cacti and similar plants. A few shallow pans of water placed under the hot water or steam radiators will help to give the plants a taste of their natural environments.

Prepared commercial plant foods are the best fertilizers for window plants. If, however, good potting compost is used, there will be little need of plant foods. Plants, whose pots have become too full of roots and which have exhausted the soil they are in, are usually the only plants that require fertilizers when properly prepared potting soil has been used.

### TEMPERATURE.

More plants are injured and destroyed in these days of self-feeders, hot air furnaces, and steam and hot water boilers, by

over-heated and dry atmospheric conditions, than are destroyed by a too low temperature. A temperature of 65 or 70 degrees Fahrenheit in the day time is ample for most window plants, with a night temperature of 50 to 55 degrees. Plants like a rest at night as well as people. One point in regard to temperature is of importance, and that is to avoid extremes of either heat or cold, as they are dangerous to plant life.

The insect pests that trouble house plants most are the green and black aphid or fly, red spider, scale, and mealy bug. A dry arid atmosphere is conducive to the increase of all these pests, hence the necessity of keeping the foliage of plants they infest as moist as possible. For the aphid, use a strong solution of tobacco water and sprinkle it on where the insects are. Raw leaf tobacco or tobacco stems from the cigar factory make the best tobacco solution, as the ordinary commercial plug tobacco is of little use for plants.

To make the tobacco solution fill a pail about three parts full of the leaves or stems and press them down rather firmly. Pour in enough boiling water to cover them about an inch in depth and nearly fill the pail. Cover the pail with an old bag to retain the steam. Let it stand until cold, in which condition it is fit for use. It will not require diluting, as tobacco water does not injure the foliage like many insecticides. A pint of boiling water poured on a bruised cigar will also make a good tobacco solution. Fumigating with tobacco smoke is very effective, but is scarcely practical in a window.

\* Extract from an address delivered at the convention of delegates from horticultural societies, held in Toronto Nov. 11-16.

Prevention is better than a cure with red spider. A moist atmosphere and sprinkling the foliage, especially on the lower side, is the best preventive against attacks of red spider. These little mites usually attack the lower side of the leaf. A dusting of finely powdered sulphur beneath the leaves, after syringing or sprinkling, is a good remedy and will not hurt the plants. The red spider is the greatest enemy the fuchsia has, and is often the only cause of failure in their growth. It is so small that it is often unseen until the plants are ruined; hence the necessity for preventing its attacks.

The small scale-like insects that attack the oleander, ivy, orange and other plants, as well as ferns, notably the sword fern, can be got rid of by washing the leaves with strong soap suds and rinsing afterwards with cold water. An old tooth brush dipped in soapy water will also remove scale easily. If scale is once moved from its position on the plant it will die.

Mealy bug should be brushed off the plants with a small brush or piece of stick and destroyed, as soon as they appear. This bug infests coleus very badly sometimes, and is very fond of nesting itself on the passion flower plant or in the thick waxy flowers of the wax plant. Good culture is the best preventive of disease in plants.

### Hardy Climbers

PROF. H. L. HUTT, O. A. C., GUELPH.

Would *Ampelopsis Veitchii*, *Clematis Henryii*, *Jackmanii* and *Madame Ed. Andre* be hardy enough for the Bobcaygeon district?—(E. D. S.)

*Ampelopsis Veitchii* is only about half hardy at Guelph. It usually requires some protection for the first two or three years until it gets started and somewhat acclimatized. Often it is frozen down to the ground during the winter and yet makes a good growth the next season. The best protection is a light screen of cedar boughs

Most window plants are propagated from cuttings or divisions, chiefly from cuttings of the young wood. Sharp, fine sand is the best material in which to strike cuttings or slips. Almost all kinds of window plants such as geraniums, fuchsias, heliotrope, *tradescantia*, coleus, chrysanthemums and many others will strike root readily from the young cuttings or growth. Young plants of chrysanthemums are easily struck in the window in a temperature of 55 to 60 degrees in well drained pots or small boxes of sand.

If plants should be frozen, remove them at once into a temperature of 45 to 50 degrees, and cover them up carefully from light and air. If not frozen too badly they will recover. I have found this method more successful than sprinkling the plants with cold water. Unless the latter is done the plants should be kept in the dark for 24 hours before being again introduced into the light. Keep frozen plants out of the sun until they have fully recovered, and do not give them much water until growth has started.

Almost all the spring flowering bulbs flower well when grown in the window. Hyacinths—especially the white Roman hyacinth—and the different varieties of narcissus give the best results for window culture.

or old sacking tacked over the vine upon the wall.

*Clematis Jackmanii* is quite hardy here, and usually makes a fine display. The *C. Henryii* and *C. Madame Ed. Andre* are also fairly hardy, but are not nearly as much grown as *C. Jackmanii*. I cannot speak with certainty as to the hardiness of these climbers in the Bobcaygeon district, but at all events they are well worth trying, and I am inclined to think that with reasonable protection at the start they would give satisfactory results.





A Beautiful Collection of Hardy Azaleas.

Although this is the season of snow storms and cold weather, the illustration should carry us back to the "good old summer time." What we probably see best and most successfully grown hardy Azaleas in Ontario last summer are shown. They were grown by Mr. Roderick Cameron of Niagara Falls, South, and contain about 100 varieties, double and single flowers, named. Mr. Cameron is shown in the illustration.

### Make Fine Decorations

E. MERSTED, OTTAWA, ONT.

EVERY one in a large or small house should have a plant or two. They are the nicest decoration you can put in your room. A large, handsomely furnished room is not complete without a plant or two. A palm or Boston fern in my eyes is a better decoration than any bric-a-brac.

The most suitable plants for house culture are foliage: Palms, Boston and Pierson ferns, araucaria, aspidistra, asparagus and fern dishes. Don't forget that these last soon get filled with roots and, therefore, need plenty of water, but should not stand in it.

In flowering plants, which should always have the sunniest spot, the best are primroses, begonias, cyclamen, primula obconica, azaleas, cineraria, heather and others. Give the azalea lots of water, keep it in the coolest place, and when it has done flowering don't put it down in the cellar to rot, as many have done to their sorrow. Keep it growing all the time.

### Asparagus Plants Wanted

PROF. H. L. HUTT, O. A. C., GUELPH.

I am thinking of planting an acre of Palmetto asparagus next spring. Can you furnish the name of anyone selling first-class plants in Ontario? Last year I purchased 2,000 roots from a Toronto house, and they proved far from satisfactory.—(W. O. Burgess, Queenston, Ont.)

I do not know of anyone who has plants of Palmetto asparagus for sale. It would be better to procure seed and grow the plants for yourself. You would then have fresh, strong plants, which you would find much more satisfactory than any you could purchase.

If you succeed in getting true Palmetto seed you should have no difficulty in growing the plants. Seeds should be sown early in the spring in rows, much the same as garden peas are sown. Plants should be ready for permanent planting in one or two years, depending on their rate of growth.

I consider The Horticulturist one of the best papers coming to my address, and cannot find to be without it. I have been glad to see a steady improvement, and wish the paper could be found in every country home in Canada.—(R. J. Messenger, Bridgetown, N. S.)

# CAULIFLOWERS AND HOW TO GROW THEM\*

R. BRODIE, WESTMOUNT, QUE.

I HAVE been led to choose this subject by the number of people who ask how to grow this delicious vegetable. In growing cauliflowers successfully the first consideration is the selection of good seed. Cheap seed will generally grow poor cauliflowers.

Varieties of cauliflowers that may do well in the moist, cool climate of England, would be a failure in our warm, dry climate. I have seen some of these varieties grow three feet high without forming a head. A good strain of the Dwarf Erfurt variety is the best suited to our climate. Nearly every large seed house has special strains of the Dwarf Erfurt, named Snowball, Snowstorm, Giltedge, Alabaster, Ideal, etc.; all good, varying a little in earliness.

All farmers should know how to make a hot-bed; a few have small greenhouses. I prefer the hot-bed to start vegetable plants, as those grown in a greenhouse are apt to grow too large and spindly. In choosing a spot for a hot-bed select a place sheltered from the wind and where the glass will get the morning and afternoon sun.

## TO OBTAIN AN EARLY CROP.

A good way to have extra early cauliflowers is to sow the Snowball variety the end of February or beginning of March. In about three weeks the plants will be large enough to set out into other hot-beds. Set the plants one foot apart each way. Some growers plant early lettuce between the cauliflower. The lettuce comes into use so much earlier than the latter, it does not interfere with the growth or cultivation of the cauliflower, for the soil needs to be stirred and cultivated round the plants in the hot-beds as well as in the open ground.

For early cauliflower in the open, sow Dwarf Erfurt in a moderately warm hot-bed in the middle of March. Keep the

temperature down to between 60 and 70 degrees by lifting the glass an inch or two. In about three weeks set out the plants in other hot-beds three inches apart; some growers set them in two-inch pots plunged in the soil, close together in the hot-bed. These plants should be ready to set out the first week in May, as soon as there is no danger of frost. For summer and autumn, make a seed bed in the open ground. Those who grow large quantities use a garden seed drill. If the black fly is troublesome use road dust or plaster of paris. With two gallons of road dust or plaster add one tablespoonful of paris green, mix thoroughly and dust on the young plants in the morning when the dew is on them.

The soils best suited to cauliflower are black muck, if well drained, black sandy loam, or any soil that will retain the moisture. Avoid light gravelly and sandy soil. My Italian neighbor took a field of poor clay soil last spring that had a stunted crop of oats and which had been full of couch grass the previous year. By plowing and grubbing till he got out most of the couch grass, then plowing in manure at the rate of 75 tons to the acre, he had a fairly good crop of cauliflowers this autumn. He is now applying as much more manure, and said to me, "With plenty of manure I can make this field all right," and he is right.

I believe there are some market gardeners in the States who condemn the use of stable manure for growing cauliflowers. These men only use commercial fertilizer. On the other hand, growers around Montreal believe they can beat the world in growing cauliflowers. Our large growers sell their best to the green grocer and butcher, the rest they sell to the pickle factories for \$30 to \$40 per ton. Some growers sold 50 to 75 tons.

\* A paper read at the twelfth annual winter meeting of the Pomological and Fruit Growing Society of the Province of Quebec, held at Ayer's Cliff, Que., Dec. 14 and 15.

If the soil is in a fertile condition it will not require as heavy manuring as if the land is run out and impoverished. Good results can be obtained by using one half stable manure and one half commercial fertilizer. The fertilizer should have an analysis of 10 per cent. phosphoric, 10 per cent. potash, and 5 per cent. ammonia, using 800 to 1,000 pounds per acre along with manure. A good way to apply the fertilizer is to sow one half broadcast. Of the other half put a handful around each plant, but be careful not to touch the plant for fear of injury. The fertilizer around the plant will prevent the cut worm and help prevent the fly that causes the maggot depositing an egg on the stem.

When preparing the land to set out plants be sure and plough deep. Some growers have a drag like a heavy iron rake, attached to the plow, to level the furrows and prepare the land in one operation. Make the rows three inches apart and set the plants

18 inches apart in the row. It is best to have a marker to mark four or five rows at a time. It is always best to set out plants in the afternoon so as to avoid the heat of the morning sun. This is not necessary if the weather is cloudy and threatening rain. If the weather should be dry at the time of setting out the plants it is best to water them.

Cultivate often; never let the soil get baked round the plants. As soon as the head begins to appear it needs to be shaded immediately from the sun. Go over the field every morning and bend the leaves over the head. Sunburnt cauliflowers bring very poor prices. Plants that do not head up before frost should be pulled. Leave all the soil that adheres to the roots and set them up close together in a root house or cellar. In this way I have had cauliflowers right into the New Year. One ounce of seed should produce about 3,000 plants and costs \$2 to \$5 per ounce.

## THE CULTIVATION OF MUSHROOMS

THE United States Department of Agriculture has recently published Farmers' Bulletin No. 204, on "The Cultivation of Mushrooms," by Dr. B. M. Duggar, Professor of Botany in the University of Missouri, Columbia, Mo. In the letter of transmittal Dr. B. T. Galloway, Chief of Bureau of Plant Industry, says: "Under the direction of the Pathologist and Physiologist of this Bureau, Doctor Duggar has been engaged for several years in the investigation of mushroom culture in all its phases, and great advances have been made, especially in the production of purer and better spawns."

On this side of the Atlantic most people are quite unfamiliar with the practical cultivation of mushrooms. The few that are grown here are seldom displayed in the public markets, because they are usually sold to special customers in advance, and at

what may be considered very fancy prices. Indeed, it is hard to understand, considering the prevailing prices, why mushrooms are not grown in greater quantity. Some idea of the magnitude of the industry around Paris, France, may be obtained from the figures given in the bulletin. In 1898, 3,960,000 pounds of mushrooms passed through Central Market of Paris, while in 1901 the quantity was more than double this, 9,680,000 pounds. It is not so stated in the bulletin, but it is known that about two-thirds of the French crop is preserved and exported to American countries.

Persons who grow mushrooms have three fundamental conditions to observe: (1) Character of the spawn used, (2) proper composting of the manure, and (3) control of the temperature and moisture of the beds. All these points are discussed by the bulletin in a simple practical way.

That part of the bulletin which will most interest practical mushroom growers is the announcement of new and improved methods of spawn growing. Two methods of securing the coveted "virgin spawn" are described. The first is the artificial germination of spores. By this method one will be able to select spores from particular mushrooms, which by constant selection may give superior varieties. Another line of development discovered by Dr. Duggar yielded even better results than the

Sporeculture process. It may be termed the "Tissue Culture" method. This method is comparable to the use of "Cuttings," as practised by the nurseryman in propagating superior sorts of fruits, and its use in growing mushrooms has been marked by the same improved results. This process renders it possible to select mushrooms of a given character, or to select toward a given end, with the same certainty growers may select the seed of other crops commercially grown.

## THE CULTURE OF POTATOES \*

W. T. MACOUN, HORTICULTURIST, CENTRAL EXPERIMENTAL FARM, OTTAWA.

THE potato is one of the most important food products of Canada and one of the commonest articles of diet. In the province of Quebec alone, when the census of 1901 was taken, there were 127,205 acres devoted to this crop, producing 127,135,739 bushels, or about 135 bushels per acre. The potato can be obtained at all seasons of the year, and if properly kept is about as good at one time as at another.

There is no farm crop which will repay good culture as well as the potato nor any of which the crop can be increased so much. A few more bushels per acre may be added to the wheat and oat crop by careful husbandry, and the crop of turnips and mangels may also be slightly increased, but the percentage of increase in all of these is much less than in the potato. The average yield per acre of potatoes for the province of Ontario for the year 1904 was 116 bushels, and for the past 22 years 115 bushels, while in the United States it is under 100 bushels per acre. Yet it has been proven by careful experiment that over 1,000 bushels per acre can be produced. An authentic experiment has shown that from a one-twentieth acre plot potatoes were grown at the rate of 1,061 bushels per acre. At the Central Experimental Farm the

greatest yield that we have been able to obtain has been at the rate of 690 bushels marketable potatoes, or a total crop with the unmarketable potatoes of 772 bushels. This was from the old Peachblow; not a desirable variety, on account of deep eyes and inferior quality. One thousand bushels per acre is something to aspire to, and it is to try and make clear to farmers that the crop can be increased very much by proper methods that this paper is presented.

The tubers are not the roots of the potato, but are the tips of swollen underground stems, the eyes being the buds; hence the tubers have little to do with the development of the plant, but the development of the root system of the plant and the consequent development of the top has much to do with the development of the tubers. As heat is very essential in growing potatoes, it is important that the soil should be warm. For this reason, sandy loam and gravelly soils which are naturally well drained have been found the most suitable, but the largest crop will be grown where the soil is naturally moist, but has not too cold a subsoil. As the conservation of moisture is naturally well drained and not very moist soil is very important for the best success of potatoes, every effort should

\* Extract from an address delivered at the twelfth annual convention of the Pomological and fruit growing Society of Quebec, held at Ayer's Cliff, December 14-15. The remainder will be published in the spring when most seasonable.

be made to retain it. It is a good plan to have the potato crop follow clover or grass sod, as the sod when turned under forms humus, and the more humus there is in the soil, the more it will retain moisture. This vegetable matter will also help to keep the soil loose, which is another factor in the growing of the crop.

The best method is, if the soil is loamy, to plow early in the spring, so that the sod will be thoroughly rotten, and then use the disc harrow and smoothing harrow thoroughly just before planting. By plowing in the spring, plant food is saved which might be lost by leaching. Stiff soils, which, if possible should not be used for potatoes, may be plowed in the autumn. The looser the soil is at planting time the better the results will usually be. Farmers make a great mistake by manuring heavily for potatoes. A moderate top dressing of barnyard manure of 10 or 15 tons per acre on the sod before plowing is quite sufficient to ensure a good crop if cultivation and spraying are attended to. If these are neglected heavy manuring is of little avail. I believe thorough cultivation to be more important than manuring.

Very satisfactory results have been obtained at the Central Experimental Farm by having the potatoes follow a root crop which was well manured and by not applying any manure direct to the crop. Manuring in the rows induces scab and should be avoided. The time of planting will vary according to the district, but the best time to plant for a main crop is about a week before the danger of frost is past, the object being to have the potatoes come up just about when danger of frost is over. From the middle to the 24th of May is a good time. In 1902 in a test made of planting potatoes at different dates an early variety planted on May 15 yielded at the rate of 294 bushels per acre, and when planted on May 29 of only 217 bushels, a difference of 77 bushels in favor of May 15. A late

variety yielded at the rate of 459 bushels per acre when planted May 15, and 411 bushels when planted May 29, a difference of 47 bushels in favor of the earlier planting. Potatoes planted on May 1 did not yield as well as those planted on the 15th, the soil probably being too cold. The longer the plants are growing before blight appears the better the crop is likely to be. For an early crop the seed can be planted earlier and some risk taken. Anything which retards the growth of the plant lessens the crop, hence danger from frost should be avoided for the main crop.

In 1904 there were 73 varieties tested at Ottawa under as nearly uniform conditions as possible. The most productive variety was the Vermont Gold Coin, which yielded at the rate of 554 bushels per acre, and Morgan's Seedling, which produced 514 bushels. Both were new varieties. The third most productive variety, and one which we have been recommending for several years, was the Carman No. 1, which yielded at the rate of 501 bushels per acre. Three of the least productive varieties were Early Andes, 123 bushels; Bliss Triumph, 127 bushels, and Bovee, 180 bushels, or 431 bushels per acre more from the heaviest yielding variety than from the lightest cropper. These great differences are obtained every year, showing the importance of trying different kinds. Some of the best varieties are distributed free from the Central Experimental Farm, Ottawa, in 3 pound samples.

The 12 varieties which have averaged best at Ottawa for the past five years, with their yields per acre, are:

	Bush.	Color
1. Late Puritan .. . . .	485	White.
2. Barnaby Mammoth... .	483	Pink and white.
3. Money Maker..... .	482	White.
4. Flemish Beauty..... .	467	Pink.
5. Carman No. 1..... .	459	White.
6. Dreeer's Standard.....	458	White.
7. Sabean's Elephant... .	454	White.
8. Canadian Beauty.....	452	Pink and white.
9. Rural Blush..... .	437	Pink.
10. I. X. L. .... .	433	Pink and white.
11. Clay Rose..... .	432	Pink.
12. Irish Cobbler..... .	432	White.

## An Established Industry

S. WARD KENNEDY, LEAMINGTON, ONT.

**E**ARLY vegetable growing in Essex county is an established industry. It has been proven to be extremely profitable by some well-known growers. The work is on a satisfactory basis and will warrant a considerable increase, but I do not believe in exceptional cases of success being cited to mislead the public. There is considerable risk in the work, and those not understanding the raising of plants under glass can easily lose a great deal of money.

Hot air, hot water and steam have been tested for heating greenhouses and the results have been published. All have proved practically successful if rightly installed, the choice resting with the amount of glass and sash at one's disposal. It is possible useful experiments might be carried on to determine whether to plant seeds early to grow slowly; or to plant later, thereby saving fuel, and growing them a little faster. Should plants be fed quite heavily, in the greenhouse, with nitrogen, phosphoric acid, and potash is a point on which there is some doubt, and experiments might be carried on in the field to determine how much fertilizer or fertilizers can be used profitably with regards to ripening, as a difference of 10 to 14 days is often the difference between profit and loss.

## The Cabbage Black Rot Germ

**T**HE Vitality of the Cabbage Black Rot Germ on Cabbage Seed, is the title of a bulletin recently issued by Messrs. H. A. Harding, F. C. Stewart and M. J. Prucha, of the New York Agricultural Experiment Station. Black rot of cabbage is a distinctive bacterial disease for which no satisfactory method of controlling it in the field has yet been found. Concerning the ability of the disease germs to survive the winter on the seed, there has been a differ-



Rev. Father A. E. Burke

The success of the ninth annual convention of the Prince Edward Island Fruit Growers Association, held Dec. 20 and 21, at Charlottown, P.E.I., and described in this issue, was due in a large measure to the energetic and capable efforts of the president, Rev. Father A. E. Burke, of Alberton, P.E.I., who is well known to readers of *The Horticulturist*.

ence of opinion. The bulletin gives an account of some investigations bearing on this point.

The conclusion is that much of the cabbage seed on the market is contaminated with germs of the black rot disease and that some of these germs may survive the winter and become a source of infection to the young cabbage plants. As a precautionary measure, it is advised that all cabbage seed be disinfected before sowing, by soaking for 15 minutes in a 1-1000 corrosive sublimate solution or in formalin, one pound to 30 gallons. It is not expected that this treatment will prevent either leaf or root infection in infected soils; but it may be safely relied on to prevent all danger from infected seed. It will not injure the germination.

Send us a card if you are not receiving *The Horticulturist* regularly. We will attend to it.

# The Canadian Horticulturist

The Only Horticultural Magazine in  
the Dominion.

H. BRUSSIN COWAN, Editor and Business Manager.

1. **The Canadian Horticulturist** is published the first of each month.

2. **Subscription Price** \$1.00 per year, strictly in advances entitling the subscriber to membership in the Fruit Growers' Association of Ontario and all its privileges, including a copy of its report. For all countries except Canada, United States and Great Britain add 50c for postage.

3. **Remittances** should be made by Post Office or Money Express Order, or Registered Letter. Postage Stamps accepted for amounts less than \$1.00. Receipts will be acknowledged on the address label, which shows the date to which subscription is paid.

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6. **Advertising Rates** quoted on application. Circulation 5,500. Copy received 17c to the 24th. Responsible representatives wanted in towns and cities.

7. **Articles and Illustrations** for publication will be thankfully received by the editor.

8. **All Communications** should be addressed:

THE CANADIAN HORTICULTURIST,  
TORONTO, CANADA

That its readers will succeed in keeping all their New Year resolutions and thereby make 1905 the happiest year they have ver known, is the hearty wish of *The Canadian Horticulturist*.

## THE FRUIT DIVISION.

The great majority of fruit growers are unanimous that the Dominion Fruit Division should be continued as a separate division and not amalgamated with the dairy division. The Prince Edward Island Fruit Growers' Association, at its annual convention last month, unanimously carried a resolution condemning the proposal to place the fruit division under the control of the chief of the dairy division. Ontario fruit growers are opposed to the proposed move as is evidenced by the interviews with leading growers published in this issue. As it has only lately become known that such action was under consideration, fruit growers generally have not had time to give expression to their views. Enough growers, however, have been heard from to show there will be bitter opposition to any action which is likely to curtail the work of the Fruit Division. Should the two divisions be united, fruit growers have expressed a determination to immediately endeavor to have the divisions separated again at the earliest possible moment.

This feeling is not the result of any objection to Mr. J. A. Ruddick, the chief of the Dairy Division. The fact is very few growers are

acquainted with Mr. Ruddick or his work. The general feeling is that the fruit interests are of sufficient importance to require a division of their own and that the head of that division should not be forced to consult with the head of another division, but that he should be subordinate only to the Hon. Sydney Fisher, Minister of Agriculture.

## AN UNSATISFACTORY METHOD.

Did any person ever know of a wholesale merchant forwarding supplies to retail firms with a request that they sell the goods to the best advantage and, after deducting the customary commission, return the balance of the proceeds to him? Has a business man been heard of who was willing to ship his season's stock of goods hundreds of miles to be sold by utter strangers with the right to make their own returns? Such a person would not be called a business man.

Fruit growers are an intelligent class of men and yet this is what hundreds of them do every year. While the weakness of this method has long been apparent the matter has never been brought home more forcibly than during the past six weeks. The statement was made by Mr. Robert Thompson, of St. Catharines, at the recent Ontario Fruit Growers' convention, that while in Winnipeg last fall he found cases where the commission men had reported to Ontario growers that their fruit had sold for considerably less than had actually been the case. Not having any proof to the contrary the growers had been forced to accept payment on the basis of the prices quoted by the commission men.

Following this has come the announcement from Boston that a coterie in England has systematically banded together for several years to secure the product of Canadian and United States apple growers for little or nothing. Fruit sold at public auctions is bought in by these parties and resold at much higher prices. The growers who consigned the fruit receive their returns on the basis of the prices realized for the fruit at the public auctions. It is necessary that steps shall be taken to prevent fraud of this kind. In England the Canadian Commissioner should take this matter up. Our Canadian commercial agents should also watch to see that the interests of Canadian growers are safeguarded. In Canada it has been suggested that commission merchants should be placed under Dominion regulations. *The Canadian Horticulturist* would like to receive suggestions from growers as to what they believe should be done.

## THE VEGETABLE GROWERS.

What are the hundreds of vegetable growers in Canada doing? Have they a Dominion organization or provincial associations of any kind. If not, why not? If they have what are they doing?

There is no department in *The Horticulturist* for which it is more difficult to obtain live,

interesting information than the vegetable section. This department should be one of the strongest. Vegetable growers should be as well organized and should hold as many meetings and conventions as the fruit growers and florists. Speak up, vegetable growers, and let us know what you are doing.

#### FROM FAR AND NEAR.

If the good that is done by *The Horticulturist* as it goes forth every month, is in comparison to the territory covered, it does indeed fulfil its mission to the very full. During the past month subscriptions and renewals have been received from Finland, South Africa, Tasmania, Switzerland, and Belgium, with one as far south in the United States as Georgia.

Our advertising columns are sought by firms as far away as Mexico, one firm sending us an advertisement from that country, which appears for the first time in this issue. Truly does Spakespeare say, "How far doth the little candle throw its beams, so shines a good deed in a naughty world." This does not necessarily mean that we consider the world not what it should be.

It has been the custom in New England and in several of the other eastern states, for a few years past, to place on the door of a house, at the time of death in a family, a wreath or bouquet of flowers. In the case of the death of an infant this sign of mourning is of smaller dimensions and consists of small white flowers. For older persons larger bouquets are used, or mere bunches of loose flowers tied with white ribbons. An excellent emblem often used is a wreath of ivy leaves, or a sheaf of wheat tied with white ribbon. These floral emblems are much less gruesome than the customary crate or ribbon decoration furnished by the undertaker. Would it not be a good idea to adopt this custom in Canada?

Horticultural societies when planning their work for 1905 should arrange to subscribe for *The Canadian Horticulturist* for all their members. Many societies do this every year and more should. *The Horticulturist* can help the societies and the societies can help *The Horticulturist*. Officers of societies should bear in mind that *The Horticulturist* is the only horticultural magazine published in Canada and that it is the equal of any of the kind published in the United States.

The Quebec Nova Scotia and Prince Edward Island Fruit Growers' Associations held successful conventions last month. Let us unite in a hearty wish that the convention to be held this month by our British Columbia brothers will be the best of all.

I greatly enjoy *The Canadian Horticulturist* and think it very instructive to fruit growers.  
—A. N. Ball, Port Hope, Ont.

#### Prince Edward Island Fruit Growers

(Continued from page 6.)

The exhibition of fruit was a surprise to every one, as all past exhibits at meetings of the association were eclipsed by this one. Fully 500 plates of Island fruit were shown, in addition to which were the provincial collections from Nova Scotia, Ontario and British Columbia, shown by the Dominion Fruit Division; a large number of varieties from the Experimental Farm, Nappan, and a splendid exhibit of boxes and barrels. The visitors from Ontario admitted that with the exception of the recent fruit show at Toronto the exhibit of fruit at Charlottetown was equal to any that has been held in recent years in connection with the Ontario Fruit Growers' Association.

The great adaptability of the different parts of the Island for growing apples was demonstrated, both the eastern and western parts of the province being well represented. Kings county, which has in the past taken a large proportion of the prizes, was beaten in the county collection class by Princes county, which exhibited a fine lot of well grown fruit.

One could not but notice the varieties which are succeeding best on the Island, by the large number of plates which were in competition and by the color and maturity of the fruit. Among these King, Spy, Ben Davis, Alexander and Gravenstein would certainly rank highest. The competition in Kings was very keen, the fruit being well matured and highly colored. A large number of plates of Spy were shown, and while the color of these was not as high as the King, the fruit was clean and well grown. Ben Davis is a great favorite on the Island. There was a large number of plates of Alexander. This variety succeeds especially well on the Island. The Gravenstein were in prime condition. Some fine plates of Baxter, Bishop Pippin, Mann, Ontario, Ribston Pippin, Blenheim Pippin, Stark, Wagener and Wealthy were shown, all of which varieties do well on the Island. Baldwins and Greenings were not so good, and it is doubtful if the former, especially, will prove a profitable commercial apple.

The exhibit of fruit in boxes and barrels was good. The Gravenstein took first prize in boxes, and the King in barrels. The Baxter is an apple which is succeeding admirably on the Island and is proving a profitable variety with those who grow it. The Dadd apple appears to be a winter sort well worth looking after, as the specimens shown at the exhibition were of fine color and good quality, and it is a variety which has been tested for many years on the Island. On the whole this Fruit Growers' meeting was an inspiration to stranger and Island folk alike, a striking testimony to the present and an augury of the triumphant success of horticulture in the garden of Canada.

Have just read the December issue of *The Horticulturist*. It is brimful of interest. My congratulations and best wishes for future success.—(J. C. Chapais, St. Denis, Que.)



## THE WINNIPEG FRUIT MARKET

During the recent shipping season a number of leading Ontario fruit growers were at a loss to know whether or not to ship fruit to Winnipeg. Commission firms, which have been established in Winnipeg for many years, would write, discouraging shipments, while in the same mail letters would be received from other firms asking for consignments.

The disturbing factor on the market appeared to be the branch of the Ottawa Fruit & Produce Exchange, recently established in Winnipeg. This concern was apparently fighting for the field against the old firms.

Desiring to locate the trouble, if possible, The Horticulturist wrote to a number of leading Winnipeg commission dealers for information concerning that market. The following reply has been received from one of the best known firms in that city with a request that the name of the firm should not be published.

### SELLS FRUIT BY AUCTION.

The Ottawa Fruit & Produce Exchange is a competitor of ours only in a different way. The Exchange puts the goods up by auction and sells them, regardless of cost and value, to the highest bidder. They have men throughout the country soliciting orders and no doubt get a good many fresh shippers, but it is very doubtful if any of the shippers will be satisfied, or, if they are satisfied, they are easy to please.

The Exchange is run under the direction of G. W. Hunt, of Ottawa. I will give you a few of the prices that it realized here for fruit. When we were paying shippers \$1.75 for Duchess apples in Ontario (the freight all rail is practically \$1 per barrel) Mr. Hunt sold his XX for \$1.55 to \$1.75 per barrel and XXX for \$2.25 to \$2.65. Tomatoes in baskets were sold for 30c to 50c per basket and pears for 40c to 75c. They came by express. We were not handling any of those goods, but we understood from the representative of Griffith & Woolverton, of Grimsby, that they were paying in the east 40 to 60 cents for tomatoes and the same for pears. Mr. Hunt last spring handled a few cars of oranges from California for which the growers did not realize more than 30 to 50 cents a box.

I point out a few of these things just to demonstrate that this city is not ready for auction fruit. If it is ready, we are prepared to go out and solicit fruit, sell it by auction and do the same kind of business as the Ottawa Fruit & Produce Exchange does, if the growers want it in that way, but we think they will soon become tired of it because fruit has a cost, and it must cost the growers something. Peaches and plums from Ontario will not carry here; apples, grapes, tomatoes and basket pears find a ready market for a limited amount.

### THE OTTAWA FRUIT AND PRODUCE EXCHANGE.

The following statement was received from Mr. Wm. Northwick, manager at Winnipeg for The Ottawa Fruit & Produce Exchange:

We opened business in Winnipeg, March 1 last, with the object of doing a strictly commission business. On account of the large num-

ber of orders we have had from dealers in other towns outside of Winnipeg, we have been obliged, in order to fill some of these orders, to buy small lots of goods. At least 90 per cent. of the goods we have handled have been on a strictly commission basis.

Our goods are all sold by auction as soon as or as quickly as possible after they arrive. Our sales have been well patronized, from the time we commenced business, by the best dealers of this city and the surrounding country, and the attendance has steadily increased until the premises, which seemed large when we first began, are entirely too small.

Our terms to those who buy our goods are strictly cash, and for those who consign goods to be sold we charge 10 per cent. commission and pay every Monday for goods sold the previous week up to Saturday night. The best evidence I can give that we are getting the best price going for the goods is the fact that nearly every person who has come up here lately with fruit to sell has handed their goods over to us to dispose of.

With regard to Ontario fruit I have been surprised to find that there has been such a prejudice worked up against it, but I have no doubt that, with better transportation facilities and a little care on the part of the grower, Ontario will soon control the fruit supply of this market. There is great need for improvement in the matter of transportation, especially with the express company, for the facilities furnished by them and the manner in which goods are handled here would not be tolerated in the east for one day.

### Packing Apples in Boxes.

J. B. THOMAS, LONDON, ENG.

There has been a good deal said about packing in boxes, but I cannot advise the use of this style of package, although in seasons of scarcity it might be adopted with some chance of success. When, some years ago, I suggested the advantage of packing in boxes I had in mind the manner and style of packing adopted in the case of Californian Newtons. I have since observed the Canadian attempts at packing in boxes and, with very few exceptions, I may say that the less we see of such boxes and such packing the better for those interested in shipping apples from Canada. At present I must urge packing in barrels only, as this style of package is best known here and best understood in Canada.

Has Been Disappointing.—Taking everything into consideration the quality of the Canadian fruit this year has been very secondary. This has occasioned much disappointment to importers, who from early reports expected to see a crop of fine fruit.—(Clark & Sinclair, Dundee, Scotland.)

Success to your excellent Horticulturist.—G. S. Hood, Galt, Ont.

## THE NIAGARA DISTRICT FRUIT GROWERS

The Niagara Peninsula United Fruit Growers' Association held a profitable meeting in St. Catharines about the middle of December. The president, Mr. C. M. Honsberger, presided, and a large number of members were present. The following were elected officers for the coming year: President, C. M. Honsberger, Jordan Station. Vice-presidents, Joseph Tweedle, Stoney Creek; A. Muir, Niagara Township; A. Railton, Fonthill. Secretary-treasurer, Carl E. Fisher, St. Catharines. Executive committee—F. Pay, W. C. McCalla, W. H. Bunting, St. Catharines; Robert Thompson, W. H. Lee, Geo. A. Robertson, Alfred Griffin, Grantham; F. A. Goring, Major James Hiscott, Isaac Usher, Niagara; Thomas Berriman, Stamford; E. Morden, Niagara Falls South; Wm. M. Hendershot, Thorold; S. H. Rittenhouse, Jordan Harbor; Andrew Haynes, Camby Wismer, Louth; Rev. W. J. Andrews, S. M. Culp, Beamsville; A. H. Pettit, C. W. Vanduser, Grimsby; M. Pettit, J. W. Smith, Egbert Smith, Winona; Erland Lee, Stoney Creek.

A comprehensive and instructive report was presented by Mr. Robert Thompson on the results of the investigations into the San Jose scale. Most of this information has already appeared in *The Horticulturist*. Mr. W. H. Bunting, of St. Catharines, stated he thought the experiments made bore out the results obtained by tests of a similar nature carried on in other parts of the continent. He stated that the McBain mixture has been used with good results, but for smaller orchards he thought lime and sulphur the more applicable.

On motion it was decided not to ask the government for further aid in supplying material for experiments. This action was objected to by Mr. Murray Pettit, of Winona, who pointed out that the black rot of grapes is causing trouble and that government assistance may prove desirable. Mr. Pettit moved in amendment that the government be requested to continue its aid. This amendment brought out a lively discussion, but was finally withdrawn and the resolution to adopt the report carried. A committee of some of the most prominent growers was appointed to interview the government and request that assistance be granted in fighting other blights which threatened the fruit crop of the district.

A lively address on Cooperation was given by Prof. Reynolds, of Guelph, who presented a resume of the results of trial shipments of fruit to the west. An account of these shipments has already been presented in *The Horticulturist*. In closing, Prof. Reynolds stated that the obstacles to a trade with Manitoba and the Northwest are:

First, Ontario fruits are not of good shipping quality. Second, transportation is not satisfactory. Third, markets are uncertain and commission men and others who handle our fruits do not always give satisfactory returns.

The various difficulties in the way of establishing this business can be overcome by the average fruit grower in no other way than by cooperation. Cooperation will give the fruit growers strength to deal with the railway com-

panies, to compel from the latter proper regard for their rights, and, furthermore, the added business which would result from cooperation would make it appear to the railways more and more worth while to give the matter of fruit transportation the attention it will then deserve. An organization will be able to grapple successfully with the problems of marketing, which it is difficult, if not impossible, for the private shipper to do. At the shipping point the cooperative concern could take charge of the selection of the packages, grading, packing and shipping of the fruit, thus relieving the individual fruit grower from the necessity of attending to these exacting details, and giving him time to attend to his legitimate business of producing prime fruit.

### Should Take The Horticulturist.

The directors of the Lindsay Horticultural Society offer to their members for 1905 the following advantages:

Each of the first 100 persons (only) who pay the sum of \$1 on giving in their name to the secretary, will receive the following collection of choice plants and bulbs for pot culture during the winter: One azalea, two cyclamen, assorted colors, three of the best hyacinths in assorted colors, or one althea, one hibiscus and one perennial larkspur, to be delivered in the spring of 1905. The choice of any of the following journals free, is given: (a) *The Canadian Horticulturist*, a 52-page illustrated monthly, devoted to fruit, flowers and vegetables. This choice includes membership in the Ontario Fruit Growers' Association, and the combined annual report of the Fruit Growers' Association and the Entomological Society of Ontario, a book worth to those interested in fruits and flowers, more than the membership fee. (b) *The Mayflower*, a bright, interesting journal devoted to fruit, flowers, birds and other interesting subjects. (c) *The Lindsay Watchman-Warrior* for one year, containing the news of the town and country, with articles interesting to fruit growers and gardeners in general. (d) *Success with Flowers*, a monthly journal devoted to flower culture.

### Work in Grimsby.

During the winter the Grimsby society aims to have discussions on fruits and flowers, the meetings taking more of a literary character than during the summer, when social sessions are more in order. Members are taking deep interest in flowers, gardens are becoming larger and more beautiful every year, and greater strides will yet be made stimulated by the increased interest and enthusiasm evinced by the members of the society.—(J. W. Brennan, Grimsby Hort'l Society.)

Have Bought Barrels.—The Forest Fruit Growers' and Forwarding Association has bought the material for making apple barrels for next season. The barrels will cost the association 26½ cents made up.

## HORTICULTURAL SOCIETIES AND THEIR WORK

At the meeting of the delegates from horticultural societies of Ontario, held in Toronto at the time of the Fruit, Flower and Honey Show, interesting descriptions were given, by a number of the delegates, of the lines of work being carried on by their societies.

The secretary of the Hamilton society, Mr. J. M. Dickson, reported that his society made a distribution of aster seeds to over 3,000 school children, with very satisfactory results. At a flower show held in September the flowers brought in by the children were numerous and beautiful, some very fine specimens of asters being exhibited. During 1903 the work of improving lawns, grounds around houses, parks, etc., was undertaken, and in 1904 the competition was more keen than ever. In this work the Hamilton society has been especially successful. Prizes were offered for best kept lawns, rockeries, hanging baskets, window boxes, general improvement, and for keeping places clean. The result has been that where formerly in Hamilton one used to stop and admire a beauty spot of this kind, he now stops and gazes with astonishment at a neglected corner or nook. The fact that the streets and walks in the city have all or nearly all been paved during the past few years has helped greatly to improve the looks of the grounds, and it has left places between streets and houses, where grass or flowers have been planted.

### The Work in Cobourg.

The Cobourg society was represented by Major A. J. Snelgrove, who reported that three years ago his society adopted the plan of giving seeds to their members, with very satisfactory results. These seeds were distributed early in the spring. The best aster seeds procurable were obtained and given to the children of both public and separate schools. Instructions were given to the teachers asking them to see that the scholars were shown how to plant and care for the seeds and plants. Prizes were offered for the best specimens of flowers from these seeds. These flowers were exhibited in September and furnished one of the finest flower shows ever held in Cobourg.

The prizes consisted of small sums of money, bulbs, seeds and potted plants. This plan of giving seeds and then offering prizes for the flowers grown does really more for the children in the line of Nature work than most other lines of work. The Cobourg society is anxious to promote a civic spirit for the development of the public beauty of the town and is succeeding.

### Toronto Horticulturists.

The president of the Toronto Horticultural society, Mr. Edward Tyrrell, gave a few remarks concerning his society. No premiums or seeds were given to members last year. Meetings are held every month at which plants in bloom are shown. Certain kinds of

plants are allotted so many points of merit. Judges determine how many points each plant has earned. These points are recorded and every point is worth ten cents to the owner of the plant. Some plants score as high as twenty points, others but ten and below. Every one bringing a plant to the meeting has an interest in the meeting and a prize is given appropriate to the value of his plant.

This plan makes it an incentive to the members to strive for the best they can obtain, and



P. G. KEYES, OTTAWA.

Much of the success of the Ottawa Horticultural Society, particularly during the past year has been due to the efforts of the president, Mr. P. G. Keyes, who has been a member of the Society since its organization, sixteen years ago. Mr. Keyes holds an important position in the Department of the Interior. His speciality in horticultural lines is grape culture. For years he has taken the first winnings at the Central Canada Exhibition in the grape sections. The cold climate of Eastern Ontario has not prevented Mr. Keyes making a success of his grapes, and in this respect his winnings have been most remarkable.

has been found to result in much good and to keep up the interest which otherwise is found to lag at certain seasons of the year. The society has 114 members and is in a prosperous condition.

### What Deseronto Horticulturists Have Done.

The first year of its organization, the Deseronto Horticultural Society followed out the requirements of the Agriculture and Arts Act. The board of directors chose plants which were given to members. This plan, the president Mr. McClew, reported caused much dissatisfaction. Some members wanted bulbs, some plants and some seeds. Each member is now allowed to choose any plant or bulb, as shown in a selected florists' or seedsmen's catalogue, up to a certain price, both for spring and fall distribution. This year the amount stipulated was \$1.35 for each member.

The first year the Deseronto society was organized, a flower show was held, and this feature has been continued every year since, with most successful results. Not only have the members been interested, but the town has been improved. Prizes have been given for the best kept grounds, which have added to the interest among members.

### Guelph Horticulturists Are Active.

The Guelph society has followed the same lines of work as many other societies in the

giving of seeds, plants, bulbs, etc., to members and school children. One mistake was found to be a detriment to good results, and that was in not obtaining the cooperation of the teachers when giving plants and seeds to the children. Both ways were tried by this society, and the added interest of the teachers adds much to the good results obtained.

This year 400 packages of aster seeds were distributed through the teachers to the children, and when the exhibition of the flowers was held in the fall the teachers, with their classes, were there with 373 entries from the 400 packages of seeds distributed. Nearly every child that took seeds brought something in return. Prizes consisting of hyacinths and narcissus bulbs, tulips, etc., were graded according to the value of the specimens. For the culture of the asters, little two-page pamphlets with cultural directions were distributed. Four bulletins were issued by the society during the year. Aside from the distribution to the schools, bulbs for fall planting were given away, as well as plants for spring planting. These latter consisted of sweet peas and rose bushes. Members take a deep interest in the specimens they secure and competition is keen as to who shall grow the finest. Eight meetings were held, at four of which speakers from all over the province spoke.

#### The Delegates Present.

Among the delegates at the convention were noted the following: Messrs. W. M. Robson, Lindsay; C. W. Schierholtz, Elmira; Major

G. M. Hill, Fruitland; Alex. T. Armstrong, Millbrook; John McLaren, Orangeville; J. O. McCulloch and J. M. Dickson, Hamilton; Jas. Symington, Port Dover; Allan McNeillage, Eberts; E. E. Adams, Leamington; John Aikln, Sarnia; C. Firth, Durham; S. E. Wedden and W. C. Reid, Belleville; Robert Hamilton, Grenville, Que.; J. C. Chapais, St. Denis, Que.; Roderick Cameron, Niagara Falls, and H. H. Groff, Simcoe.

### Ottawa a Progressive Example

It has already been made known through *The Horticulturist*, the good work being done by the Ottawa Horticultural Society. Monthly meetings are held throughout the year. Lectures are given at each of these meetings by capable speakers. During the past two years bulletins have been issued, the one this year on Bulbs receiving general commendation. The society considers it a wise plan to give plants and seeds, and then ask the members for their experience with the same. Cannas, geraniums and perennials are usually given and the money is considered well spent.

Some inducement must be offered to the greater mass of people in general to have them take an interest in the matter. It costs the Ottawa society about \$3 a year per member for the plants, etc., given them. The society has 246 members, which large number is partially accounted for by the giving away of these plants every year. The society starts work for 1905 with a balance in the treasury of \$28, and considers itself stronger and better than ever before since organization. Much good has been done the city of Ottawa by its horticultural society. The standard of flowers, and all pertaining to horticulture has been raised, and the people taught to look on them as a necessity rather than a luxury. At the exhibition held this year there were 900 entries.

## Notice to Subscribers

Several thousand readers of *The Canadian Horticulturist* are members of horticultural societies. The subscriptions of these readers expired with the December issue and they have been sent copies of the January issue in the hope that they will continue to be members throughout 1905. Members of societies who desire to receive *The Horticulturist* regularly should renew their membership in their local horticultural societies immediately as otherwise their subscriptions will be discontinued with the February issue. *The Horticulturist* has been greatly improved during the past year and will be further improved this year. The management hopes that all its readers will continue as regular subscribers during 1905.



J. F. WATSON, OTTAWA.

Since 1896 Mr. J. F. Watson has acted as secretary of the Ottawa Horticultural Society, giving much of his time and energy to the work and improvement of the society. As the society has grown rapidly, the duties of secretary have increased in proportion, but Mr. Watson has always been equal to the situation. His efforts have been duly appreciated, as is shown by the fact that he has been duly re-elected for six successive years. For eleven years he has been employed in the horticultural division of the Experimental Farm, and for five years was superintendent of horticulture at the Central Canada Exhibition. There is no more popular or hard working officer connected with the Ottawa Horticultural Society.

Stelgrove, Coburg; D. McClew, Deseronto; John Cope, Hamilton; A. K. Goodman, Cayuga; J. Cavers, Oakville; Jas. J. Scarff, Woodstock; R. R. Whyte, Ottawa; W. T. Macoun, Ottawa; H. L. Hutt, Guelph; Allan Cameron, Owen Sound; J. W. Brennan, Grimsby; Edward Tyrrell, Toronto; Miss J. S. Campbell and Miss J. Douglas, St. Catharines; David Rife and Edward Gurney, Hespeler; J. Evans, Randolph;

### New Work for Fruit Experimenters

At a meeting of the Board of Control of the Fruit Experiment Stations held recently at Guelph, several very important decisions were arrived at which, it is hoped, will lead to even more valuable reports being received from the stations than in the past. As a result of the disasters which again overtook the peach growers in Essex, due to the extreme winter, the Board decided that something should be done at once to assist those who desired to replant.

It was felt that the use of cover crops should be encouraged, and their effect on freezing of the soil, ripening of wood growth, etc., thoroughly tested. With this object in view five

acres at the Essex Experiment Station, on the farm of Mr. W. W. Hillborn, will be set out this spring with about ten of the best varieties of peaches for that district in lots of 100 of each variety. Extensive experiments will be carried out to find the value of the hairy vetch, crimson and red clover, rye, etc., as cover crops. An additional test as to hardiness of plum roots for peach trees will be carried on by having ten trees of each variety budded to plum stock.

The Essex district is one of the best fruit sections of Ontario and it is hoped that some definite results may follow these experiments at Mr. Hillborn's. The peach industry there received a decided set back by last winter's

## "Canadian Plants for Canadian People"

Our complete spring catalogue of Plants, Shrubs, Seeds, Etc., will be out in March. Be sure that you get a copy.

**THE WEBSTER FLORAL COMPANY, LIMITED**

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# TREES

You want the best. Nothing short of the best pays you to plant. Where will you be sure to get the best

**TREES, PLANTS, VINES**

Fruit and Ornamental?

—AT—

**E. D. SMITH'S**

**WINONA, ONT.**

Finest Stock of Apple Trees on Earth.

Salesmen Wanted.

TEN DOLLARS for the person who buys Goods to the Greatest Value from Advertisers in this Issue. See Notice in Advertising Columns.

freeze, and the Board could not make a better move than they are thus doing through this station to re-establish the confidence of the growers.

It has been felt that the stations have carried on tests of several of our most important fruits for a sufficient length of time (over 10 years in most cases) to be able to speak with authority for their several districts. Last year, as a result of these tests, a partial list was prepared and published in the annual report showing the most valuable varieties of apples for Ontario. All of the stations will now be supplied with a complete set of these recommended varieties and many of the poor varieties will be destroyed or top-grafted as being unworthy of further test. While the stations will still specialize as in the past, it is hoped that each experimenter will have a small collection of the standard varieties of each fruit as recommended by the Board, so as to know from experience their adaptability in his own district.

#### WILL TEST FRUIT IN NEW ONTARIO.

The Board is arranging to send several farmers in the Temiscamingue and New Liskearn districts a collection of small fruits and some of the hardier trees for trial. The conditions of soil and climate in these new and promising sections of Ontario have been found to be so varied it was thought better to conduct experiments in several portions of the country till more definite information as to the existing agricultural conditions can be obtained. From specimens of fruit, both wild and cultivated, which have been grown there, the Department of Agriculture hopes that many of our hardier varieties of tree fruits, and most of the small fruits, will be found to succeed with proper care.

During 1905 two exhibits will be made, one at the Canadian National Exhibition in September, and the other at the Provincial Fruit, Flower and Honey Show in November. The former will be largely shown in commercial packages and should be an object lesson not only to the fruit grower, but also to the consumer. An interesting collection of injurious insects and fungi will also be shown in connection with both exhibitions.

#### Nova Scotia Fruit Growers Are Wide Awake

(Continued from page 7)

An interesting discussion was led by Mr. W. H. Woodsworth, of Berwick, on "Conservation of Soil Moisture." Questions were asked and answered by Messrs. McNeill and Fletcher. Considerable attention was given to root killing, and many different opinions were expressed. "The London Markets," was the subject of an interesting paper by Mr. Freeman Fitch. His report was a brief but comprehensive one, showing the advantages and disadvantages of the fruit growers in the London market, with its wonderful amount of business. The proper insurance of shipments was discussed and many questions asked were answered by Mr. Fitch.

An address by Captain C. O. Allan, on Marine Insurance, proved valuable. Information was

Ask your Grocer for  
**Windsor Salt**  
Best for Table Use.

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Parks, Cemeteries, Public and Private  
Pleasure Grounds made by . . . . .

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The Southern Fruit Grower is the best, most practical fruit paper to read. It is 40 pages every month. One a year. Send 10c and 10 names of fruit growers and get the paper 6 mos. on trial. Sample free. Southern Fruit Grower, Box 10, Chattanooga, Tenn.

### MARCHMENT'S SURE GROWTH COMPOST

Best manure in the country. Supplied by car or boat, at reasonable prices.

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ROSE JARS and  
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Guaranteed to prevent injury to trees by rabbits, mice, moles, borers, etc. Spreads well, looks beautiful and stands the weather. Best and cheapest Tree Protector on the market. 50c and \$1 per box. Write at once for circulars, testimonials, terms to agents and free sample.

We pay freight.

**AMERICAN TREE PAINT CO.**  
FREEMANSBURG, PA.

Dept. 10.

given about the shipment of apples by the steamer Loyalist, in which Nova Scotia growers had shipped 20,000 barrels of apples (the Furness, Withy line) and which were lost. The insurance on the apples was paid and the company proved equal to the best on the continent.

Many were interested in listening to Mr. R. W. Starr, who spoke on "Impressions of Ontario Fruit and Fruit Growers." The speaker when in Ontario found Ontario apples were well colored and learned that this was on account of their being left on the trees as long as possible before frost came.

#### A DOMINION ASSOCIATION.

References were made to packing fruit by A. McNeill, Chief of the Fruit Division at Ottawa. Regarding the formation of a Maritime Fruit Growers' Association, Mr. McNeill thought it advisable to have a Dominion Association in order to give fruit growers more influence with the government.

Spraying was discussed by Dr. Fletcher, of the Experimental Farm, Ottawa. Discussions followed, in which Mr. McNeill, Dr. Fletcher, G. H. Vroom and others participated. The consensus of opinion was that spraying done in a thorough manner either once, twice or three times during the year, to suit local conditions, brought the best results.

At one of the evening sessions, Secretary of Agriculture, Mr. B. W. Chipman, traced the development of fruit growing in Nova Scotia during the past 50 years. Last year the superintendent of agriculture sent fruit to the Crystal Palace exhibit at London which received the highest praise. The exhibit of 82 varieties, grown on one farm in King's county, was an eye opener to the English people. Nova Scotia holds first place among all apples from abroad. The speaker traced the increase in the value of apples from 1867 to the present time. The fruit growers of Nova Scotia feel greatly encouraged as a result of the convention.

**Advertisers Read This.**—I see very few advertisements in The Horticulturist along the line of fruit growers' seasonable wants, such as fruit baskets, fruit boxes, barrel staves, hoops and headings, and where they are made, unleached wood ashes, fence posts, and many other things fruit growers need. There is no time in the busy season for us to purchase these articles, and we would like to order them at this season in advance. I would also like to draw attention to the reports circulated during the months of July and August last by foreign dealers as to the probable large yield of apples for export and the actual results in comparison to other years.—(A. H. Grimsby, Ont.)

I am very well pleased with The Canadian Horticulturist. It handles the subjects I am interested in.—(H. Rutherford, Long Island, N. Y.)

The December number of The Canadian Horticulturist is by far the best number that has ever been issued.—(J. Cavers, Oakville, Ont.)

**TEN DOLLARS** for the person who buys Goods to the Greatest Value from Advertisers in this issue. See Notice in Advertising Columns.

## THE WAGGONER LADDER

Quality of Fruit depends largely on proper packing. To do this, you require one of our Extension Ladders. Look for our advertisement on cover of February and March issues of this Journal or send for free circulars and prices.

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Shippers of Apples to England are invited to correspond with us.

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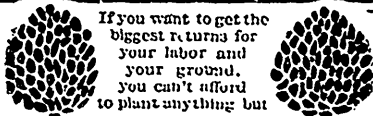
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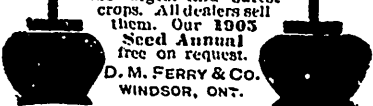


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### Canadian Fruit at the London Fall Exhibitions

The Canadian fruit was a prominent feature of the Dominion Government exhibits at the Confectioners', Bakers' and Allied Traders', the Grocers' and Allied Traders', and the Dairy Exhibitions, all held at the Royal Agricultural Hall, Islington, N., London, England, last fall.

The fruit exhibit consisted of all the early autumn apples, Yellow Transparent, Red Astrachan, Charlottenthaler, Early Harvest, Brockville Beauty, St. Lawrence, Alexander, Wolf River, Antmann, Duchess, Wealthy, Switzer, Gravenstein, Early Joe, etc., and plums, pears, peaches and grapes, and the far famed Montreal Nutmeg melon.

Besides these natural fruits there was a large collection of fruit put up in fancy jars, in antiseptic fluids. These comprised all the small fruits, strawberries, gooseberries, currants, cherries, etc., with plums, peaches, pears, apples, grapes and tomatoes.

The manner in which this display was made was a great credit to Canada and resulted in a very large number of specific inquiries as to where these fruits could be procured, either from agents in Britain or from the exporters in Canada. The officials in charge gave all information possible, explaining the manner in which goods were packed, dwelling particularly on the advantages of the 40-pound box for extra choice apples, and explaining that all Canadian peaches, pears and grapes are grown in the open air, a fact not generally realized or appreciated in Great Britain.

## A GIFT OF \$10.00

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Readers must notify advertisers that they saw their advertisement in this paper.

When applying for the \$10 bonus, they must inform this office of the name or names of the advertisers they dealt with, and the value of the goods they purchased from each.

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Address,

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THE SOUTHERN FRUIT GROWER, Box 10, Chattanooga, Tenn.



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## Illustrated Seed Catalogue For 1905.

Unlike any other work of its kind. Not only tells what are the best Flower Seeds, Bulbs, Small Fruits, Garden and Farm Seeds, but tells plainly how to get the best results in the growing, whether you plant for pleasure or profit. Many new features this year. It's free.

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## MEXICAN PLANTS and SEEDS

We have the largest and finest stock in Mexico of ORCHIDS, CACTI, AGAVES, Etc.

Just issued our Beautifully Illustrated and Descriptive Cultural Catalogue; and 10 cents in postage stamps for it. Price List Free.

J. BALME & CO., Horticulturists, Mexico City.

## NORTHERN GROWN TREES

Apple, Pear, Plum, Cherry, Peach, Nut and Ornamental Trees. Small Fruits, Roses, Shrubs, cheap. Mammoth Prolific Dewberry a Speciality.

Send for Free Catalogue. — It tells the whole story.

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## DOMINION NURSERIES

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Those desirous of purchasing NURSERY STOCK send for 1905 Catalogue—Just published.



**GREGORY'S SEEDS**  
FOR 1905

We catalogue this season the earliest market potato ever produced in the United States.

**GREGORY'S SEEDS**

We catalogue a new drumhead cabbage which in the government test surpassed all varieties found in this Country and Europe. Catalogue free.

J. J. H. GREGORY & SON, Marblehead, Mass.

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Write for Price List and Catalogue.