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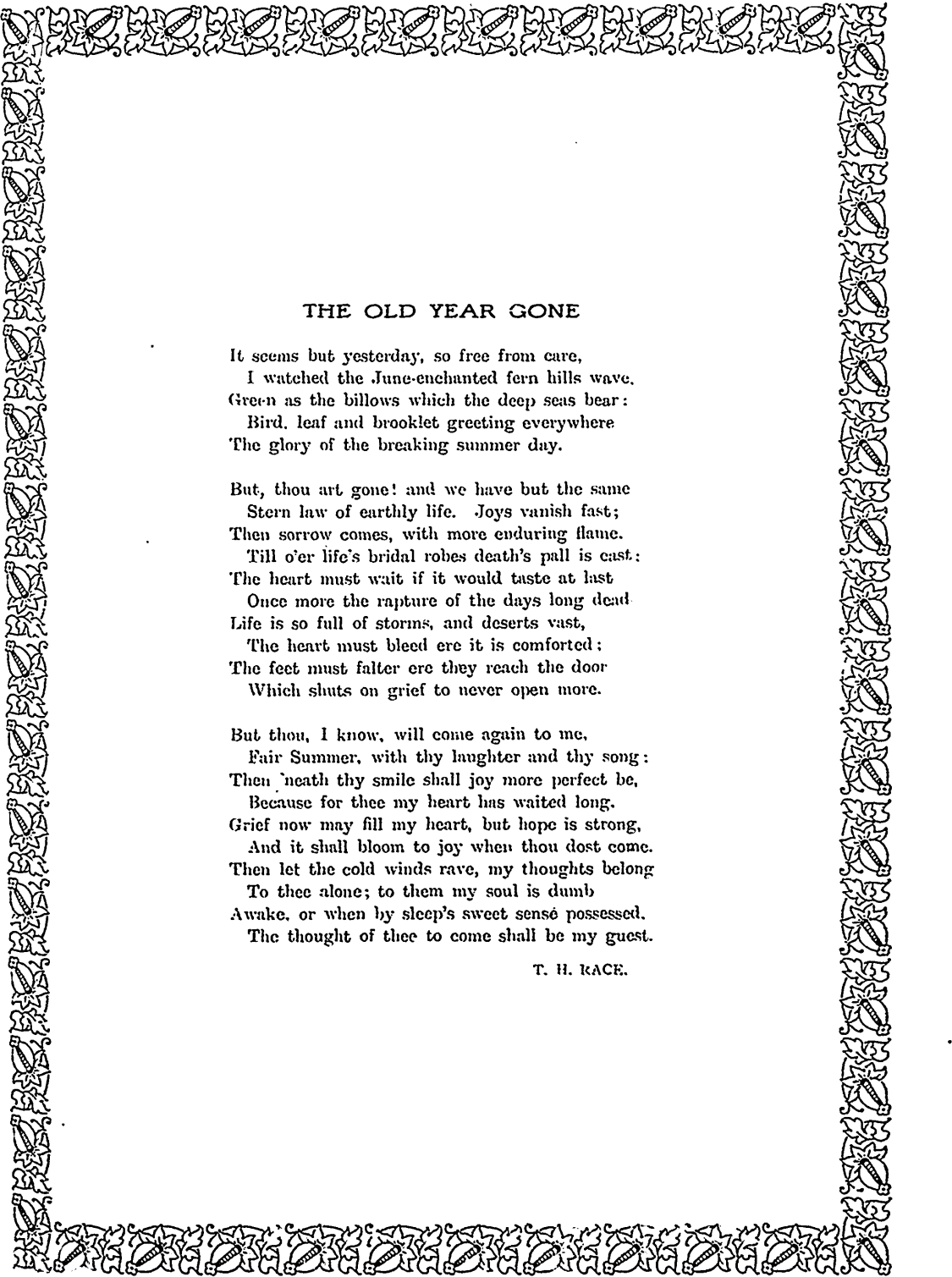


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# THE CANADIAN HORTICULTURIST

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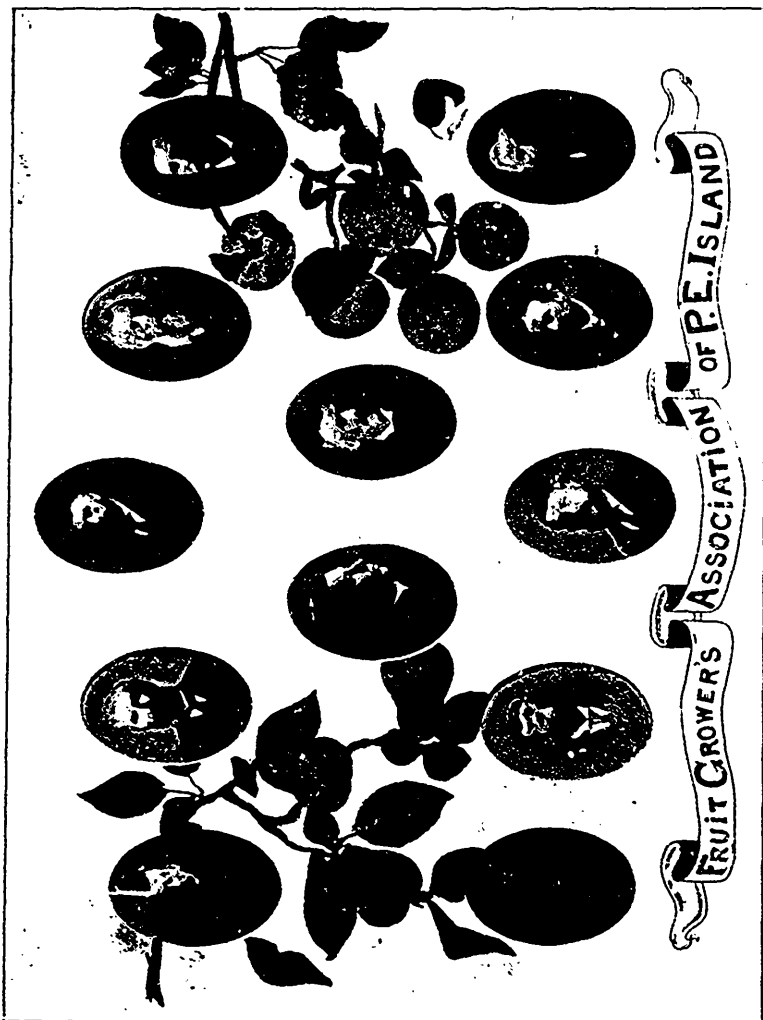
## THE OLD YEAR GONE

It seems but yesterday, so free from care,  
I watched the June-enchanted fern hills wave,  
Green as the billows which the deep seas bear:  
Bird, leaf and brooklet greeting everywhere  
The glory of the breaking summer day.

But, thou art gone! and we have but the same  
Stern law of earthly life. Joys vanish fast;  
Then sorrow comes, with more enduring flame.  
Till o'er life's bridal robes death's pall is cast:  
The heart must wait if it would taste at last  
Once more the rapture of the days long dead  
Life is so full of storms, and deserts vast,  
The heart must bleed ere it is comforted:  
The feet must falter ere they reach the door  
Which shuts on grief to never open more.

But thou, I know, will come again to me,  
Fair Summer, with thy laughter and thy song:  
Then 'neath thy smile shall joy more perfect be,  
Because for thee my heart has waited long.  
Grief now may fill my heart, but hope is strong,  
And it shall bloom to joy when thou dost come.  
Then let the cold winds rave, my thoughts belong  
To thee alone; to them my soul is dumb  
Awake, or when by sleep's sweet sense possessed,  
The thought of thee to come shall be my guest.

T. H. RACE.



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# The Canadian Horticulturist

FEBRUARY, 1905

VOLUME XXVIII



NUMBER 2

## WOOD ASHES ARE A VALUABLE FERTILIZER

PROF. R. HARCOURT, O. A. C., GUELPH, ONT.

WHEN properly applied wood ashes are of great value for increasing both the quantity and quality of the various crops of the farm and garden. Yet, immense quantities of this valuable fertilizer are exported annually from this province. Returns from the Department of Customs, Ottawa, show that during the last calendar year \$43,392 worth of ashes were exported from Ontario.

These ashes were probably bought from their original owners for not more than five cents per bushel, when, at the lowest calculation, figuring their value at the market price of the potash and phosphoric acid contained in them, they would be worth fully five or six times that. In addition to this, in the aggregate, tons and tons of ashes are allowed to go to waste through being exposed to the rains.

The three substances specially required by plants to induce a healthy and vigorous growth are: potash, phosphoric acid, and nitrogen. All three substances have their own particular part to perform in the development of the plant, and neither one can take the place of the other.

Nitrogen as a plant food appears to influence more especially the formation of stems, leaves, roots, etc., or, in other words, the growth of the framework of the plant. Potash is necessary for the formation of the

woody parts of stems and the pulp of fruits, and is apparently essential to the formation of sugar and starch. The flavor and color of fruits is also credited to potash. Phosphoric acid influences more particularly the maturity of plants, and the production of seed or grain.

The natural plant food of the soil comes from many sources, but chiefly from decaying vegetable matter and the weathering of the mineral matter of the soil. Both these processes are somewhat slow, except under favorable conditions, and both supply potash and phosphoric acid, but only the former supplies nitrogen. Comparatively recently it has been learned that by the growth of certain crops the immense supply of nitrogen in the atmosphere may be drawn on to replace that taken out of the soil by plants, consequently it is only for special crops and under special conditions that nitrogen need be applied to the soil other than as farm yard manure.

In the case of potash and phosphoric acid it is somewhat different. The supply will depend on the nature of the rock from which the soil was formed and on the amount of these constituents returned in the form of manure. Clay soils usually contain large quantities of these ash constituents, the availability of which will depend largely on cultivation, drainage, etc. On

the other hand, sandy and loamy soils are nearly always deficient in potash, and those naturally rich in organic matter, such as swamp soils, also contain little potash.

#### SOILS WHICH NEED POTASH.

These latter types of soils are those on which market garden and fruit crops are generally grown. Crops which are particularly in need of potash, and, as the yield is limited by the constituent of plant food present in smallest quantity, these soils, especially for the kind of crops mentioned, are in need of potash. Further, the quality of the crop, as measured by appearance and palatability, is affected not only by the nature of the soil, but by the crop being able to obtain from the soil a proper balance of the essential constituents of plant food and in sufficient quantities to permit of a continuous and rapid development.

Wood ashes are one of our natural sources of potash. Clean fresh burned ashes will contain 6 to 35 per cent. of potash, depending on the kind of wood from which they

were obtained. They also contain one to two per cent. of phosphoric acid, and about 35 per cent. of lime. Further, the potash is all soluble in water and, therefore, immediately available to plants.

Thousands of acres of land in Ontario are deficient in potash and many of the crops of the farm, especially vegetables and fruits, are in particular need of potash. It seems too bad that wood ashes, which contain such large quantities of potash, and that in the very best form for plants, should be so extensively shipped out of the country.

If some people will continue to sell ashes, let them be advertised in Ontario so that they may be bought by those who know their value, and thus save us the humiliation of having Canada wood ashes advertised for sale throughout the Eastern States of the American Republic, and at the same time keep that at home which we need for good crop production, and which we are now beginning to bring back into the country in other forms.

## BLACK KNOT ON PLUMS

PROF. F. C. SEARS, WOLFVILLE, N. S.

**W**E have conclusively proved that black knot can be controlled, even in the midst of infected orchards, by spraying the trees, cutting out the knots and burning them. In that part of the experimental orchard which we have had only two years, there were, at the time we leased it, about 40 old plum trees that were so thoroughly infested with knot that it seemed the wisest course to root them out and burn them.

Instead of doing so we cut them back so as to remove all the knots. In removing a knot we cut at least six inches below it so as to remove every trace of the disease. We then gathered up and burned all the trimmings. During that summer the orchard was sprayed three times with Bor-

deaux mixture, and in the fall the knots were again removed and burned. The trees had made a vigorous growth after their severe pruning, and there were few knots compared with the year before.

The next summer we decided to remove the knots as soon as they appeared, and with this object we went through the orchard twice once in July and once in August, and cut out the knots. We did this regardless of the fruit on the trees, as our object was to stamp out the disease without considering how much fruit we had to sacrifice. We found that by taking the knots at this stage when they were soft it was often possible to pare off a knot instead of cutting away the entire branch on which it grew.

## THE ONTARIO FRUIT EXPERIMENT STATIONS \*

REPORT OF THE INSPECTOR, PROF. H. L. HUTT, O. A. C., GUELPH.

THE past year was one of the most trying that Ontario fruit growers have experienced in a long time. The extreme severity of the winter of 1903-4 caused the loss of at least one-third of the fruit trees of the province. This loss was not confined to any particular section, but was more or less general throughout Ontario. On the whole, the Niagara district suffered less than most others, the injury being confined mostly to the loss of fruit-buds. In the Essex district hundreds of acres of peach orchards were destroyed, while plums, cherries, and even apples, were more or less seriously injured.

In northern and central Ontario more than half of the plum and pear trees were winter killed, and many varieties of apples proved too tender. In eastern Ontario apples are the principal tree fruits grown, and the most of these are of the hardier varieties, but in many cases even the so-called hardy varieties were winter killed, particularly where the trees had borne heavily the previous season. This fact was evident in all sections; that those trees which were over-loaded in 1903 and consequently were somewhat weakened by the heavy drain upon the vitality of the tree, suffered most severely from the severity of the winter. An excellent example of this was afforded in the orchard of Harold Jones, Maitland, where a dozen or more of his Fameuse trees most heavily loaded in 1903 died in 1904, and one tree, which bore heavily on one side only, is dead upon that side, and so far quite healthy on the other.

On account of the great loss of trees throughout the country there will necessarily be an extra lot of replanting to do next spring. For this reason I have made it a point to get from each of the experimenters a carefully prepared list of the

varieties of the different kinds of fruit he would recommend for planting in his section. These lists, coming as they do from men of wide experience in fruit growing, are of particular value to intending planters.

### THE SOUTHWESTERN STATION.

This station, which is in charge of Mr. W. W. Hilborn, of Leamington, is in the centre of what has been regarded as the finest peach section in Ontario. Many growers had gone so extensively into peach culture that they had 50 to 100 acres of peach trees in bearing. The first great set back came with the severe winter of 1898 and 1899, when 50 per cent. of the trees were winter killed. Mr. Hilborn at that time had 100 acres of peach trees just nicely bearing, but lost all but four or five acres. Since then he had been replanting till he had about 80 acres in trees. Last winter, however, killed out nearly every peach tree on his place, and I heard it stated that there was probably not ten acres of healthy peach orchard left in all of that district. Mr. Hilborn is not discouraged, however, but would like to plant again a small orchard of the leading varieties for experimental work.

The following is a list of the varieties of peaches, plums and cherries which Mr. Hilborn recommends for planting in his section:

**PEACHES:** Alexander, Yellow St. John, Brigden, Early Crawford, Fitzgerald, New Prolific, Engol Mammoth, Elberta, Crosby, Kalamazoo, Golden Drop, Banner, and Smock.

**PLUMS:** Burbank, Satsuma, Bradshaw, Lombard, Monarch, Imperial Gage, and Reine Claude.

**CHERRIES:** Napoleon Bigarreau, Mercer, Schmidt's Bigarreau, Yellow Spanish, Windsor Montmorency, and Early Richmond.

\* This report was presented to the Board of Control of the Fruit Experiment Stations at the time of the Provincial Fruit Flower and Honey Show.



Since Mr. Hilborn has had to turn his attention to something else than peaches, he has gone largely into the growing of early vegetables, such as cabbage, cucumbers, tomatoes and melons. He says his tomatoes last year paid better than peaches ever did.

#### THE WENTWORTH STATION.

The fruit to which special attention is being given at this station by Mr. Murray Pettit, of Winona, the experimenter, is grapes, of which he has about 25 acres, including 146 varieties.

The vines set their usual heavy crop, but on account of the cold backward season the fruit was very late in ripening, hardly any of it being fit for display at the time of the Toronto exhibition. Many of the late varieties, in fact, did not ripen at all. The brown and black rot of the grape were much worse last year than ever before in Ontario. In many vineyards, particularly of the Roger varieties, the crop was more than half spoiled. It is important that grape growers should know that both of these forms of rot can be kept in check by thorough spraying with the Bordeaux mixture. If the disease gets a good foot-hold in this country, as it has in many of the grape growing sections of the United States, it will be impossible after a time to get a crop of grapes without thorough spraying.

The results of Mr. Pettit's variety tests are already valuable, for they show plainly that but very few of many varieties advertised are of value in this country. From among the large number tested the following are recommended as a few of the best: Black—Concord, Worden, Wilder, and Campbell's Early. Red—Lindsey, Delaware, Agawam, and Catawba. White—Niagara and Moore's Diamond.

In addition to his vineyard Mr. Pettit has about 40 acres in orchards, mostly of pears and plums. He has 28 varieties of peaches, 25 of plums, 16 of cherries, 12 of pears, and 6 of apples. Of the other fruits tested Mr.

Pettit recommends the following varieties as the most profitable for his section:

**PEACHES:** Alexander, Greensboro, Yellow St. John, Early Crawford, Elberta, Smithson, and Smock. These are given in their order of ripening, and he would advise planting only a few of the two first mentioned.

**PEARS:** Gifford, Bartlett, Howell, Duchess, and Anjou.

**PLUMS:** Bradshaw, Lombard, Grand Duke, Burbank, Yellow Egg, Reine Claude, and Monarch.

**CHERRIES:** Napoleon Bigarreau, Windsor, Reine Hortense, Black Heart, Early Richmond, and Bossarabian.

#### THE BURLINGTON STATION.

At this station Mr. Peart, of Freeman, the experimenter, has a large general collection of fruits, made up of 69 varieties of apples, 45 of pears, 50 of plums, 10 of peaches, 8 of cherries, 28 of grapes, 27 of currants, 6 of gooseberries, 22 of blackberries, 3 of raspberries, and one of quinces. Many of these he has had under test for a long time, and is thus in a position to give valuable information regarding the best varieties to plant in his section. Following is a list of the varieties he recommends of the various classes of fruits:

**APPLES:** Summer—Astrachan, Duchess. Fall—Ribston and Blenheim. Winter—Baldwin, Northern Spy, Greening and King.

**PEARS:** Wilder, Bartlett, Clapp's Favorite, Anjou, Clairgeau (dwarf), Kieffer, Winter Nelis, Easter Buerre.

**EUROPEAN PLUMS:** Bradshaw, Niagara, Quackenbos, Lombard, Imperial Gage, Reine Claude. **JAPAN PLUMS:** Willard, Abundance, Burbank, Satsuma and Wickson.

**PEACHES:** Champion, Crosby, Elberta, Early and Late Crawford, Smock and Tyhurst.

**CHERRIES:** Early Richmond, Montro-

rency, English Morello, May Duke, and Windsor.

GRAPES: Worden, Concord, Delaware, Lindley, Niagara, Moore's Diamond.

CURRENTS: Red—Wilder, Cherry, Pomona, New Victoria, North Star. Black—Saunders, Naples, Collins' Prolific. White—White Grape and Imperial.

RASPBERRIES: Marlboro, Miller, Cuthbert, and Loudon.

GOOSEBERRIES: Industry and Downing.

Fruit trees on the whole wintered fairly well in this section, and the crop last year was about up to the average. In Mr. Peart's apple orchard the crop of Ribston was exceptionally fine. His plum orchard has suffered severely with shot-hole fungus during the past two or three seasons, and most of the trees will not survive another year. The young experimental pear orchard set out six or seven years ago is coming nicely into bearing; a number of new varieties were fruiting last year for the first time. The black rot of the grape made its appearance in this section last year as well as in the Niagara district. The crop in Mr. Peart's vineyard was more or less severely injured.

#### THE LAKE HURON STATION.

An excellent general collection of fruits for experimental work has been started at this station by Mr. Sherrington, the experimenter. It is made up of 75 varieties of apples, 35 of pears, 45 of plums, 25 of cherries, 20 of raspberries, 15 of blackberries, 15 of currants, and 6 of gooseberries, and a half dozen or more of strawberries. So far Mr. Sherrington has been reporting principally on apples, plums and raspberries. At the time of my visit he was in the midst of his small fruit harvest. Currants and gooseberries were an excellent crop. The raspberries had suffered from the se-

verity of the winter and also from the drought in that section last summer. Plums and cherries had suffered from winter killing more than any other fruits, and there was no crop in the trees left. Strange to say the Japan plums had, with few exceptions, proved more hardy than the European varieties. This has been clearly shown at a number of the other stations.

#### THE GEORGIAN BAY STATION.

Mr. John Mitchell, of Clarksburg, the experimenter at this station, has a good general collection of apples, pears, peaches, etc., but special attention has been given to plums, of which about 170 varieties have been under test. The trees here, as in most other sections of the province, had suffered more or less from winter killing, particularly in the old orchard where they were heavily loaded in 1903. The crop last year was comparatively light. A number of the Japan plums have, for several years, been fruiting heavily, and last winter they stood well while a number of the European varieties succumbed to the severity of the weather.

The following is a list of the European varieties which Mr. Mitchell recommends as having done the best with him: Washington, Imperial Gage, Bradshaw, Quackenbos, Archduke, Diamond, Monarch, Yellow Egg, Coe's Golden Drop, and Reine Claude.

The Japan plums he finds are not nearly so saleable as those of the European class just mentioned. The following he gives as the best of the Japan varieties: Red June, Burbank, and Satsuma. Mr. Mitchell has under test 10 varieties of peaches, all the trees of which bore heavily in 1903, but last winter gave them a severe test, and where the trees were not killed outright the fruit buds were destroyed.

(To be concluded in March issue.)

I am glad to find *The Horticulturist* so much improved. It is the best of its kind.—(A. J. Collins, Listowel, Ont.)

*The Canadian Horticulturist* is a welcome visitor in our house.—(W. T. Patulla, Creemore, Ont.)

## WILL ENCOURAGE COOPERATIVE ASSOCIATIONS

P. W. HODGETTS, SECRETARY ONTARIO FRUIT GROWERS' ASSOCIATION.

AT a special meeting of the executive and the cooperative committee of the Ontario Fruit Growers' Association held in Toronto during January it was decided to assist the fruit growers of the province to form cooperative associations. With this object special assistance will be asked for from the Ontario Department of Agriculture.

Those present were Messrs. Alex. McNeill, Chief of the Fruit Division, Ottawa; the president of the Fruit Growers' Association, W. H. Bunting, of St. Catharines; A. E. Sherrington, of Walkerton; Elmer Lick, of Oshawa; Murray Pettit, of Winona; J. S. Scharf, of Woodstock; P. J. Carey, of Toronto; A. Gifford, of Meaford; P. W. Hodgetts, of Toronto, and Messrs. G. A. Putnam and H. B. Cowan, representing the Department of Agriculture. Last year, through the efforts of the association, a number of cooperative fruit growers' associations were formed which proved the salvation of the growers who joined them. In many places where buyers were offering 25 to 50 cents per barrel for apples on the trees, or not handling the fruit at all, members of these associations netted \$1 or more per barrel for their XXX apples, and were able to dispose of all of their crops at good prices. The conditions in other places where the growers had to depend on the buyers were so bad the association has decided to encourage the formation of additional associations this year throughout western Ontario.

One of the most successful cooperators in Ontario, Mr. A. E. Sherrington, of Walkerton, told of the conditions in the western

and southern parts of the province, and advised that a capable man be sent next spring into the best apple sections to thoroughly organize the growers. After a lengthy discussion it was decided to endeavor to organize a limited number of associations in sections where the growers have asked for help. The assistance of the Farmers' Institutes in this educational work was promised by the superintendent, and the campaign will be opened by a couple of meetings in Forest and Thedford, January 27 and 28. Other places will be visited, and it is hoped that before the fall of 1905 15 or 20 cooperative fruit packing associations will be in good running order.

### GOVERNMENT HELP.

To further assist such associations, a resolution was unanimously adopted and forwarded to the Ontario Department of Agriculture asking that the Act for the incorporation of Cooperative Cold Storage Associations be extended for five years, and so amended that co-operative fruit growers' associations can be incorporated under the act with power to acquire by lease, purchase or otherwise cold storage plants, fruit cooling houses and central fruit packing houses. The Government was further asked to extend the grant of one-fifth of the initial cost of cold storage plants to apply also to fruit cooling houses and central packing houses. A recommendation was also forwarded to the Minister of Agriculture asking that a special appropriation be made this year to cover the cost of operating several power sprayers in different parts of the province, and to provide for instruction in the proper grading and packing of fruit.

**Treatment For Aphis** - The black soap from France for treating aphids I applied to a row of cherry and plum trees with satisfactory results. The foliage on the treated trees retained a bright, glossy green, and

the aphids was almost destroyed. I find strong tobacco water and soap a satisfactory treatment for aphids, and not inferior like kerosene emulsion. - (Harold Jones Maitland, Ont.

## A CANADIAN INSTITUTION TO BE PROUD OF

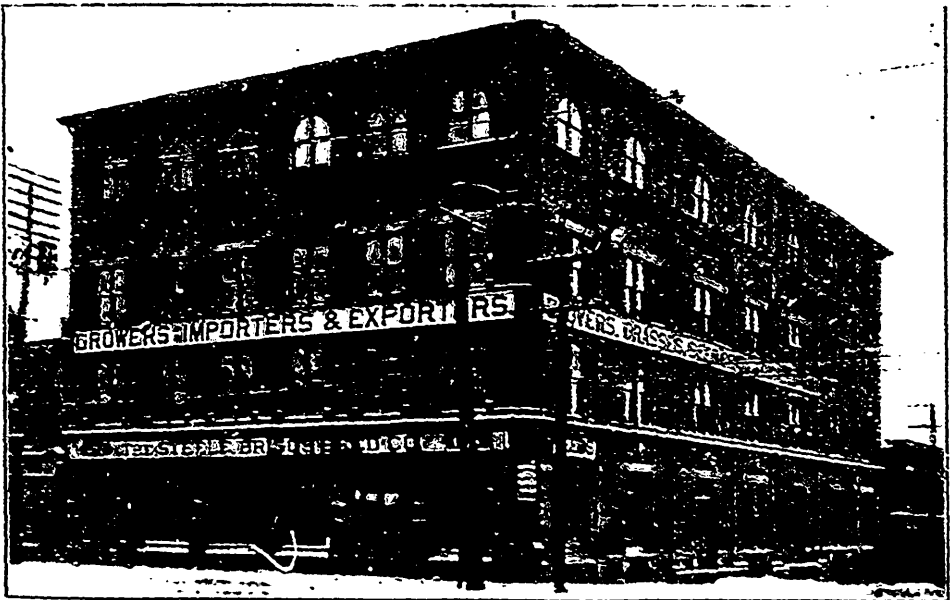
A GREAT change has taken place in Canada and all things Canadian during the past few years. From being content to watch the tremendous strides made by our neighbors to the south Canadians have awakened to the fact that they have a country and institutions of their own of which any nation might well be proud. It has been a surprise to many to find that in the Dominion there are industries and institutions that will hold their own with any in the world.

Canada's horticultural interests are greater than is commonly realized. The descriptions published in *The Horticulturist* last summer and fall of some of the Dominion's leading nurseries were a revelation to many fruit and flower growers. Another horticultural institution of which Canadians may well feel proud is the Steele, Briggs Seed Co., whose head office is located in Toronto, but which has branches in all parts of the world. Some conception of the wide scope of the business conducted by this

firm may be gained by a glance at the list of countries from which it secures its seeds.

Most of the seeds are grown under contract. Peas and beans are principally grown in Canada, carrots in France, parsnips in California, onions in California and Connecticut, and cauliflower in Denmark. Flower seeds come principally from Germany and bulbs from Holland.

"Our idea," said Mr. A. W. Annandale, the manager of the retail department, greenhouses and trial grounds, to an editorial representative of *The Horticulturist* who visited the company's establishment during January, "in having our seeds and bulbs grown under contract in distant countries is to ensure our being able to obtain plenty of seed and bulbs a high percentage of which will germinate. Take, for instance, onion seed, a great deal of which we obtain from California. While we can obtain this seed in Canada when the season is favorable there are many years when we are unable to secure it. Some years we



A Horticultural Institution With Branches All Over the World

The second largest seed firm in the continent is that of the Steele Briggs Seed Co., of Toronto, a description of which appears in this issue. (From a photograph taken specially for *The Canadian Horticulturist*.)

may be able to get seed, but only a small portion of it will germinate. The season in Canada is too short to enable the seed to mature properly every season.

"Were we to rely for our supply on the Canadian crop there would be many years when we would not have any seed for our customers. In California conditions are different. The season there is long and dry, and a good crop of seed is secured practically every year. California is better in this respect than Connecticut, where some of our seed comes from, as the atmosphere in Connecticut is often so moist, on account of the nearness of the ocean, that difficulty is experienced in obtaining good seed."

"Is there not," was asked, "a danger that seed secured under such different climatic conditions will not be suitable for the purpose of Canadian growers?"

"We guard against that," Mr. Annandale replied, "by carefully testing the seed before we offer it for sale. For this purpose we have established trial grounds, comprising about seven acres, in the eastern part of the city. Samples of the seed received from the different countries are taken and sown under conditions approaching as near as possible those under which the seed is finally to be sown. Where the seed is to be sown in the open we sow it in the open on our trial grounds. If the seed of bulbs are of some delicate plant or vegetable we first plant them in the greenhouses, which we have had erected specially for that purpose, and later transplant the plants to the open. This work has grown so rapidly we have had to add one greenhouse after another until now the greenhouses cover about an acre of ground. A careful record is kept of the percentage of seed from each lot which germinates. If the percentage is low we do not sell that seed."

"How," was asked, "do you manage to make your arrangements with the growers in so many different countries, and how do

you make certain that they are giving proper attention to the work?"

"We have found it necessary," replied Mr. Annandale, "to send representatives to these different sections and countries, who arrange with the growers at first hand. Some of the growers in Canada and the United States are visited two and three times a year. Our business in flower seeds and bulbs is not large enough to warrant us in sending a representative to such places as Bermuda and Japan so often. These points are not visited more than once in three years."

"What guarantee have you," was next asked, "that the growers will send you good seed?" "If," replied Mr. Annandale, "we find, after testing the seed on our trial grounds, that certain growers are not sending us seed of high quality we immediately warn them, and if necessary break off our contracts with them. Some of the growers with whom we deal have been sending us seed for years and we have found them so reliable we hardly deem it necessary to even test their seed. The rule for good seed is that 85 per cent. should germinate, though in some cases, such as sweet corn, up to 100 per cent. will grow, while in some other seeds 85 is a high percentage.

"Some seeds," continued Mr. Annandale, "are very costly. A consignment of cauliflower recently received is worth \$28 per pound, and a calceolaria, not a new variety, costs \$40 per ounce. Some varieties are sold by the thousand seeds and are so fine that we have considerable difficulty handling them as they have to be counted under the magnifying glass."

#### THE BUSINESS DEPARTMENT.

The representative of The Horticulturist was much interested in certain features of the business that were pointed out to him by Mr. Annandale in connection with a visit to the wholesale premises on Front street, Toronto. Although the start of the Steele Briggs Seed Co., 32 years ago, was a hum-

ble one, like those of the nurseries that have been described in *The Horticulturist*, the business has grown to such an extent that everything has to be done on a large scale. In addition to the wholesale department, and the greenhouses and trial grounds already described, it has been found necessary to establish a retail store on King street, as well as branches in Hamilton and Winnipeg. Some conception of the volume of business transacted may be gained from the fact that over 100,000 catalogues,

packages are required. On this account we have found it necessary to instal machinery for the special purpose of making these bags. One machine will make 35,000 in a day. These bags are printed on ordinary printing presses on the premises and then filled and sealed by another machine at the rate of 28,000 per day. The cardboard cartons containing larger seeds, such as sugar corn, peas, beans, turnips, mangolds, etc., are filled by a machine similar to that used for tea packages.

"As the greater part of our business is done on a commission basis, assortments of our seed neatly arranged in cases for display are sent out early in the year to merchants all over Canada, and after the season is over the cases, with any unsold seeds, are returned. A staff of carpenters is employed in repairing seed cabinets and boxes which come back in a damaged condition."

"The great bulk of your seed must be sold in Canada," said the representative of *The Horticulturist*. "Yes," replied Mr. Annandale, "outside the older portions of Canada we find that Manitoba and the Northwest, including the Yukon, furnish a field for almost unlimited expansion. Of the colonial markets Australia is the best we have."

In the wholesale department Mr. E. F. Crossland is manager. The other leading officers of the company, besides Mr. Annandale, are Mr. R. C. Steele, president; Mr. S. E. Briggs, vice-president, and Mr. W. D. Steele.

Although the representative of *The Horticulturist* found a great deal to interest him in what he saw he was informed by Mr. Annandale that a visitor to the company's trial grounds and green houses is most enjoyable from July till the end of September, when there is a profusion of bloom. With such institutions as these Canadians may well look forward hopefully to the future of the horticultural interests of the Dominion.



### Lilies Growing in Bermuda

A view of one of the fields of lilies as grown in Bermuda under contract for the Steele Briggs Seed Co., of Toronto, is here shown. In Bermuda lilies are grown to perfection.

printed in English and French, are distributed every year, describing the seeds, small fruits, fertilizers, garden tools, etc., that the firm deals in.

#### SEED MUST BE CLEAN.

A most interesting piece of apparatus at the wholesale warehouse is one used for cleaning the seed. This is accomplished by a sort of fanning machine. "We have to exercise great care," said Mr. Annandale, "to see that the seed we send out is free from all impurities. The germinating seed is the heaviest, and when we turn the blowing machine on the seed the lighter impurities are forced out.

"As most of the seeds sold through our retail branches, and the firms with whom we do business, is put up in small packages and hundreds of thousands of these paper

## FRUIT GROWING IN BRITISH COLUMBIA

**F**RUIT growers in British Columbia had a successful season last year and are looking forward hopefully to the future. This was shown at the annual convention of the Fruit Growers' Association held at Duncans, B. C., January 5.

In his annual address the president, Mr. J. C. Metcalfe, of Port Hammond, B. C., reported that schedule prices had been obtained and well maintained throughout the season. There was a marked general improvement, not so much in areas planted, quantities and qualities of fruit grown, as in the mechanical part, viz., packing and grading, qualities of packages used, and the cultural methods employed in orchard work. The fruit growers, he considered, should congratulate themselves on the prices obtained, as compared with either eastern Canadian or United States growers.

There has been a disposition on the part of British Columbia growers in the past to cut prices as the season advances. With this in view, the association in the early part of the last year attempted to secure the cooperation of fruit growers, and thus far has been quite successful. In no case has a member of any of the local unions quoted below the schedule of prices agreed on and sent out to dealers in British Columbia, Manitoba and the Northwest Territories.

President Metcalfe strongly urged growers to cooperate more, not only that lower rates may be secured from the railroads, but that fruit may be marketed in better condition and to better advantage.

### THE SECRETARY'S REPORT.

Much interesting information was contained in the report of the secretary, Mr. W. J. Brandrith, of Ladner, B. C., which was, in part, as follows:

Fruit growing in British Columbia is not a "get rich quick" proposition, but those who have paid attention to their business, neglecting no detail, however trivial, have had the pleasure of handling more money

for their fruit during the past season than for several years. Although the plantings have been large the acreage of fruit bearing orchard is still insufficient to supply the rapidly increasing demand for No. 1 fruit. The large increase in the population of our cities and the immense immigration into the northwest and Manitoba assures us of a profitable market, to say nothing of the trade that might be developed with the far east. The opening of the Panama Canal will give us a chance in the markets of Great Britain and Ireland. With such an outlook for profitable markets we should use every endeavor to produce strictly No. 1 fruit and advertise it in every way. The people of the northwest are as anxious to get our fruit as we are to get their flour.

I think I may justly compliment the association on the success of the display of British Columbia fruit at the Dominion Exhibition in Winnipeg last summer, under the auspices of the Provincial Government, and also on the splendid achievement of British Columbia fruit at the Royal Horticultural Society's show in London, Eng., during October, at which the province received the first prize.

The success achieved in this competition in London should stimulate those who have the direction and supervision of the British Columbia fruit industry to still greater efforts to maintain and improve the quality of the fruit raised and to protect the crop from the inroad of insects and other pests. It is a matter of common knowledge how the orchards of Ontario and some of the Pacific Coast states have been ravaged and almost made valueless by the lack of precautions and the absence of a system of rigid inspection and supervision.

Considerable as the growth of the industry has been it is but in its infancy. Some of the districts on the island and coast section of the mainland will be put largely under fruit, while the Okanagan and some

other districts of the interior are destined to become famous throughout Canada for their fruit products. Difficulties incidental to the settlement of a new country are being gradually overcome, and experience is being accumulated from day to day as to the best methods of cultivation. We venture to prophesy that it will not be many years before an annual provincial exhibition of fruit will be one of the leading and regular incidents in the history of British Columbia.

#### FRUIT MARKS ACT ENDORSED.

The good effects of the continued enforcement of the Dominion Fruit Marks Act are very noticeable. Still large quantities of inferior fruit are put on the market, and being marked No. 3 escape the penalties which they justly deserve. I would suggest that the association ask the department to specify what constitutes No. 2 and No. 3 apples. My own opinion is that No. 3 apples should never leave the farm.

## THE MANURING OF FRUIT TREES

PROF. A. WAGNER.

THE notion is still very prevalent amongst agriculturists that it is unnecessary to manure fruit trees. This idea is principally due to the fact that many fruit trees, even without any special manuring, occasionally give good yields. Further, an impression has gained ground that a fruit tree which has borne well one year cannot give any yield the next or even the following year, because it needs rest.

Neither of these opinions is correct. The fruit tree is subject to the same natural laws, as regards nourishment, as any other plant. When the nutriment which are present to a limited extent in the soil have been used they must be restored, or in other words the soil must be manured. The reason a tree which has yielded well one year generally bears little or not at all the next year, is capable of a simple explanation; the necessary assimilated plant food is no longer available in the soil and the tree cannot again form fruit until the soil is rendered able to supply this food.

If a tree which has yielded well is correctly manured at the right time there is no reason why it should not bear fruit year by year. Plenty of examples can be given where trees thus manured have given good crops for many years in succession, any failure being attributable to some other

cause, such as unfavorable weather at the time of blossoming, birds, insects, fungi, etc. There has been an improvement of late years, and there are already farmers and fruit growers who, when manuring, do not forget the fruit orchard, but there is still a great deal wanting in this respect.

In order to grow and thrive, the fruit tree requires, like every other plant, warmth, sunlight, and moisture, as well as a number of other substances, which are taken partly from the air through the medium of the leaves, and partly from the soil by means of the roots. The latter substances are called nutrients, and include carbon, hydrogen, oxygen, nitrogen, sulphur, phosphorus, potash, lime, magnesia and iron. All these substances are indispensable to the prosperity of the fruit crop, as if any one of them is wanting the tree cannot develop. If one or several of these substances are present to only a limited extent the tree cannot take up the remaining nutrients—even if these are present in excess—in quantities sufficient for its complete development. The yielding capabilities of a tree are therefore regulated by that nutrient which is least available in the soil.

#### SHOULD SUPPLY FOUR SUBSTANCES.

Fortunately, most of the substances named are so largely present in the soil or



in the air that the grower has not to trouble himself about supplying them by means of manuring; in fact, only the following four substances need come into question: nitrogen, potash, phosphoric acid, and lime. These substances cannot be supplied to and taken up by the plants in their elementary forms, but have to be applied in combination with other substances.

: Nitrate of soda, containing 15 to 16 per cent. of easily soluble and available nitrogen in the form of nitric acid, is very suitable for the manuring of fruit trees. It is more completely used up when applied to fruit trees than when used for ordinary crops, as that part of the roots of fruit trees which go deeper into the soil are able to take up any part of the nitrate of soda which the rain may wash deep into the soil, and which, in the case of ordinary crops, would be wasted, having gone beyond reach of the roots.

Superphosphate contains 12 to 20 per cent. of water-soluble phosphoric acid. The phosphoric acid in this manure is soluble

in water, its action therefore rapid; but on the other hand there is little or no subsequent benefit. On soils deficient in lime the full effect cannot be obtained from the use of superphosphate, as on these soils the soluble phosphoric acid is converted into the insoluble phosphates of iron and alumina, the phosphoric acid of which cannot be made use of by the plants, but superphosphate can be employed in cases where the phosphoric acid is required to act quickly, and where no prolonged action is expected.

Kainit, containing 12 per cent. potash, is not to be recommended for the manuring of fruit trees on ordinary and heavier soils; it should only be used on light, dry, sandy soils, and must then be applied in the autumn. Muriate of potash and sulphate of potash both contain about 50 per cent. of potash. Muriate of potash can be specially recommended for supplying the potash requirements of fruit trees on soils fairly rich in lime, whereas sulphate of potash is to be preferred for soils where the lime is present in small quantities only.

### The Time to Apply the Wash

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

Would you kindly let me know what time of the year has been shown to be the most satisfactory for the application of the lime-sulphur caustic wash. I understand, of course, that its primary purpose is to clean the bark, but is it also good as a fungicide?—(J. Robertson, Chateauguay Basin, Que.

As the result of experiments carried on for the past two years, when applications were made at different periods during the dormant season, it was pretty well proven that it is not safe to apply the lime-sulphur mixture any time before the middle of January. Trees treated in December last year were badly hurt by the application, while trees in the same row and same block treated in late winter suffered not at all. It is pretty well conceded that the best time to apply the lime-sulphur caustic mixture is in

the spring while the limbs are still dormant, just before the buds unfold.

There seems to be no doubt that this mixture is also an excellent fungicide. It appears to kill many of the winter spores which would otherwise mature and spread the disease. Regarding its value as a check to the "spot" on the Fameuse, I am of the opinion that an application of this mixture will very materially check the disease. It is likely true that two or three additional sprayings with Bordeaux will be necessary to check the spot completely. A spraying given in early spring, while the trees are still dormant, will have no effect in protecting the leaves of the trees later on in the summer from infection by spores which are blown to those leaves. Subsequent sprayings with Bordeaux are, therefore, necessary.

## PEDIGREED STRAWBERRY PLANTS

A GREAT deal of discussion has been taking place among strawberry growers, both in the United States and Canada, in regard to the claims of excellence that have been made by growers of pedigreed strawberry plants. The result of enquiries made by The Canadian Horticulturist indicates that Canadian growers do not believe that so-called pedigreed plants are any better than ordinary stock that has been given good treatment.

"The thoroughbred plant people have been doing an injury to honest nurserymen by their false statements," writes Mr. R. H. McDowell, of Tillsonburg. "The experiment stations should have exposed their fraud long before this. There may be something in the pedigree theory if properly worked out, but I have proved to my own satisfaction that the plants sent out as thoroughbred pedigreed plants are in no way superior to the average scrub stock.

"In order to test the matter I selected the Michel's Early, as some plants of that variety will stool out and send up a number of fruit stalks, while other plants apparently strong and well matured will fail to put on any fruit. It looked quite reasonable to me that if they were propagated year after year from the productive plants a more productive strain would result. I had taken no pains to select the productive plants in my patch, and had been growing them in that manner nearly ever since their introduction. I sent for some pedigree plants of the above variety. They came promptly. I threw out a number of poor, little, sickly, immature ones that I did not consider worth planting and planted the rest beside a row containing an equal number of plants of my own scrub stock. I gave them the same care as my own stock. They made a fairly good row. Mine made too many plants as I did not thin them. The fruit on the thoroughbreds was no larger or better in quality than that which grew on my scrubs, and while I

did not keep account of the exact number of baskets picked from each I should judge we picked nearly double the amount of berries off mine that we did from the others.

"I dug plants off the above rows and set out a patch next spring. Both made a good row, but I could see no difference in them. They had become acclimated and accustomed to my mode of treatment. If there was any difference in fruiting qualities it was in favor of my scrubs. I found as many barren plants among the thoroughbred plants as among my own, and came to the conclusion that pedigree plants are a fraud."

### SHOULD HAVE THE PLANTS TESTED.

"Breeders who profess to know all about good strawberry plants," suggests Mr. Charles H. Snow, of Cummings Bridge, Ont., "should send their plants to the experiment stations to have them tested beside those of well known plant growers. Improvement of plants by selection of the parentage stock is, in my opinion, correct, but the life of a plant, especially a strawberry, is too short to attach a pedigree to it."

Considerable attention has been given to this subject by Mr. M. Crawford, of Cuyahoga Falls, Ohio, who has come to the conclusion that the characteristics of a variety of the strawberry or any of our fruit bearing plants cannot be changed, increased or diminished by any system of selection, cultivation, pruning or fertilizing.

### EXTRAVAGANT CLAIMS HAVE BEEN MADE.

"Some extravagant claims have been made by one or two United States strawberry growers for their so-called thoroughbred or pedigree plants," writes Prof. H. L. Hutt, of the Agricultural College, Guelph.

"These men know nothing about what pedigree means. There are men, such as Burbank, of California, and our own Mr. Groff, of Simcoe, who have bred plants through generation after generation until they have what might well be called highly bred or

pedigreed plants. But such plant breeders are few."

"There are many of our Canadian strawberry growers who are growing their plants on good soil, under good cultivation, and who are careful to select healthy, vigorous plants from new plantations, who can furnish just as good plants as any of the advertisers who make such extravagant claims for their plants grown in no better way. I am glad that you are taking this matter up in *The Horticulturist*. I have heard of Canadian growers who have been disap-

pointed in these so-called pedigree plants obtained from the States, when they might have got as good, if not better plants from some near-by grower or neighbor. It is well that our fruit growers are anxious to get the best that can be obtained, yet they must remember that varieties are developed or bred up by the few who can give the attention to crossing and breeding of plants, while the general grower is concerned more about the selection and growing of thrifty, vigorous plants of the varieties so established."

## BLACK ROT OF GRAPES \*

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

PERHAPS some of our Ontario grape growers are wondering if the methods which are so effective in Ohio in controlling the grape rot can be relied on in Ontario. We are not able to answer this question definitely on account of the newness of the situation and the absence of experimental work for a longer period than one season, but on account of the similarity of situation of the two grape belts, both as to soil and climate, we would be justified in answering in the affirmative. Both regions are grape regions on account of their peculiar position to one of the great lakes, both being strongly influenced by the presence of a large body of water to the north. Moreover, the experience of Mr. W. H. Bunting this past season in controlling a bad attack of black rot in his large vineyards near St. Catharines would lead us to believe that the disease could be controlled even more effectively the coming season. Mr. Bunting sprayed persistently and carefully from early spring to the middle of August and was rewarded with a good marketable crop. Like myself he believed thoroughly in early spraying, even while the vines are yet dormant, for the reason that the early

spores are prevented from effecting an entrance into the tissues. In the great majority of cases this reasoning stands true, but apparently it is not true with the black rot, for the Ohio experiments carried on for three years in succession showed conclusively that the fungus can be kept out entirely and absolutely even when the first spraying is delayed until the last week in May or the first week in June and when the young shoots are nearly eighteen inches long.

It may be that the winter spores are not set free from their cases until the shoots are of considerable length and after the shoots have come out of their dormant condition.

It is very evident that besides persistent and careful spraying clean culture is a very essential factor in the control of black rot.

A study of the reproduction of the fungus shows the presence of spores which winter over in the dead leaves, diseased shoots, and mummy fruit. It is important, therefore, that as many of the diseased leaves, shoots and grapes as possible be collected and burned, or buried deep by the plow so that there is no likelihood of the spores reaching the surface to be scattered by the wind. The most fruitful source of infection is the

\* Extract from an address delivered at the annual convention of the Ontario Fruit Growers' Association.

mummy grape, which is too frequently allowed to remain on the vines as long as it wishes.

#### OTHER DISEASES OF THE GRAPE.

A few words regarding other diseases of the grape. First, and next in importance to the black rot, is the brown rot or downy mildew. This and the powdery mildew were quite prevalent in the Winona-Grimsby district. The downy mildew is characterized by the presence of pale spots becoming brown on the upper side of the leaves and corresponding whitish downy patches on the lower surface. The downy patches consist of microscopic branching stalks, bearing spores capable of infecting new vines. The fruit when attacked shows brown spots which rapidly enlarge. Soon the whole fruit becomes rotten.

The powdery mildew, unlike the downy mildew which feeds within the tissues of the leaves, shoots and fruit, is a surface feeder, and is first noticed on the upper surface of the leaves as a white mouldy growth. Two kinds of spores are produced, the summer spore in immense numbers, and the winter spore, borne in brown or black bodies, which are readily seen in late summer with a glass, immersed in the white growth.

The bird's eye rot is not a serious disease, but it is sometimes met with. The diseased spots are at first brown, and with a distinct margin. Later the center is whitish, and the margin is purple with a reddish inner circle.

Bordeaux mixture applied three or four times at right periods during the summer will control any of these minor diseases.

## GRAPE FERTILIZERS

A. W. PEART, BURLINGTON, ONT.

**I**N order to fertilize grapes economically and effectively due consideration should be given to their special needs and the sort of soil where they are grown. In a general way grapes, as well as pears, consume a large quantity of potash. Clearly then potash must be either in the soil or supplied to it.

It appears to be well understood that a clay soil, or better still, a clay loam, is the natural home of the grape. Vineyards are often planted on sandy or gravelly loams with excellent results. They, however, require different methods of handling.

There are two plantations here, one on a clay, the other on a gravel loam. The former grows only a light to moderate amount of wood, with highly flavored fruit. I do not use potash of any kind in this vineyard, but every other year plow under a liberal application of stable manure. This supplies humus and promotes wood growth as

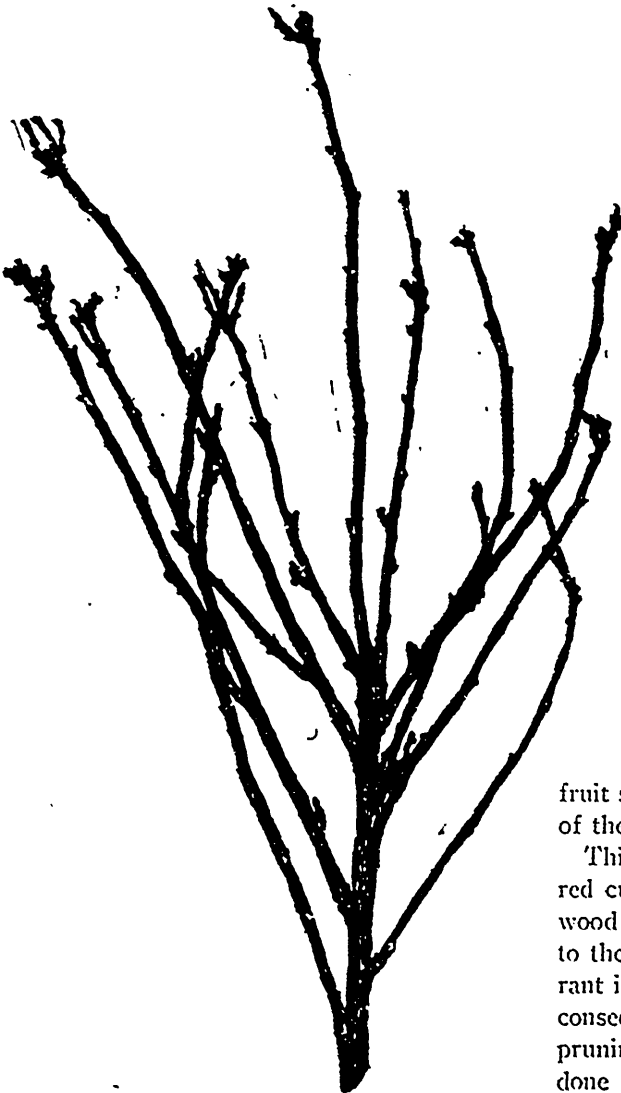
well as size in the fruit. The other plantation does not require much wood stimulus, perhaps stable manure once in five years, but on account of the relative absence of potash in gravelly soils, muriate or sulphate of potash or wood ashes are used, preferably the latter. Unleached hardwood ashes I consider the best, scattered broadcast over the soil after plowing in the spring, at the rate of about 40 bushels per acre each season.

In the absence of enough ashes I use one of the other potash combinations, giving the preference to sulphate, sowing it evenly by hand like grain, after plowing, then harrowing it in. I think that the sulphate form may act as a check on mildew as well as a fertilizer. Either sort is used at the rate of 200 pounds per acre, each year. The above applies to bearing vines. When young I push them by careful cultivation and stable manure when necessary.

### Pruning Currant Bushes

LINUS WOOLVERTON, GRIMSBY, ONT.

THE pruning of the currant is most important, because the young wood is the most fruitful, and if the growth is well cut back an abundance of fruit buds will, of course, result. The natural tendency of the growth of a young currant plant is shown by the illustration. If in the winter pruning these are cut back to two buds each



Natural Growth of Currant Bush.



Fruit Spurs on Currant Bush.

fruit spurs will form along the whole length of the main stock, as illustrated.

This treatment applies to the white and red currant, on which the fruit is borne on wood of the same season's growth, but not to the black. The fruit of the black currant is produced on one year old wood, and consequently it will not do to give it spur pruning. This work should, of course, be done in the winter season. Proper attention to this work is very important.

## VARIETIES OF STRAWBERRIES

**S**TRAWBERRY growers who have not done so, will soon have to make a selection of the varieties which they will grow in 1905. Some interesting information respecting varieties tested in 1904 is contained in Bulletin 154 of the Ohio Agricultural Experiment Station, a copy of which has just reached *The Horticulturist*. One hundred and fifty varieties were tried with varying results. Undoubtedly there are many, even among those which failed to give satisfactory results, that upon other soils or under different conditions would prove valuable.

### UNSATISFACTORY VARIETIES.

Varieties which did not produce satisfactorily were: Arizona, Arnet, Auto, Bush Cluster, Bryan, Beder Wood, Cameron, Clyde, Corsican, Darling, Double Cropper, Emperor, Empress, Early Giant, G. X. M. Nos. 1, 2 and 3, G. X. E. Nos. 3 and 4, Hum, Lady Jane, Livingstone, Mammoth, Margaret, Marshall, Martin No. 1, Mayflower, McKinley, Michel, Monitor, Nina, Palmer's Very Early, Parker Earle, Patrick, Rapp, W., Riehl No. 3, Rough Rider, Success, Sunrise, Young's Early Sunrise, Thompson's Nos. 102, 201, 203, 500, 502, Thompson's Earliest, Twilight, Victor, Yant.

### SATISFACTORY VARIETIES.

The most satisfactory early varieties were Expelsior, Fairfield, Gill and Mayflower. The latter ran very small after the first two pickings. The more prominent early varieties were Haverland, Louis Hubach, Lyon, Manokin, Senator Dunlap, Texas and Warfield.

I have tested a great many varieties of strawberries and my main crop consists of Crescent and Williams. The Crescent is the most profitable strawberry among upwards of 100 varieties tested. It will pay better at five or six cents a box than many of the others would do at 25 cents.—(G. C. Caston, Craighurst, Ont.

The best mid-season varieties included Bubach, Gibson, Lloyd, Marie, Parson's Beauty, Pocomoke, Sample, Shenandoah, Sutherland and Uncle Jim.

### LATE VARIETIES.

The most satisfactory late varieties were Cardinal, Commonwealth, Latest, Nettie and Robbie. Those varieties noted for their unusually good quality were Carlisle Seedling, Chellie, E. H. Ekey, Kittie Rice, Luxury, Nick Ohmer, Pennell, Senator Dunlap and Wm. Belt. The most prolific varieties were Bubach, Bismarck, Fairfield, Fisher (Prof.), Fisher (Mrs. Prof.), Gill, Glen Mary, Haverland, Highland Seedling, Howard, Kansas, Louis Hubach, Lucas, Lyon, Marie, Minute Man, New Globe, Parson's Beauty, Pocomoke, Rochester Seedling, Sample, Senator Dunlap, Shenandoah, Shepard, Sunshine, Sutherland, Thompson's No. 124, Uncle Jim and Warfield.

### OTHER GOOD VARIETIES.

Varieties remarkable for large size and unusual beauty included Chellie, E. H. Ekey, Latest, Nettie, Sample and Springdale Beauty. (The latter failed to hold up in size, however.) Varieties standing prominently as leaders for market were Bubach, Cardinal, Fairfield, Gill, Haverland, Highland Seedling, Lyon, Parson's Beauty, Pocomoke, Sample, Senator Dunlap, Latest, Nettie, Robbie and Uncle Jim. A quartette of varieties excellent for home use: Carlisle Seedling, Kittie Rice, Pennell and Senator Dunlap.

"I seldom thin my pears, or fruit of any kind, as labor is too expensive. I tried it once with some of my Bartletts and found it paid, as the fruit was larger and there was no loss through the branches breaking down from over bearing. Sometimes my branches break in this way, but not often."  
—(E. C. Beman, Newcastle, Ont.

### Disease Among the Lilies

W. T. MACOUN, HORTICULTURIST, C. E. F.,  
OTTAWA.

For the past two or three years a blight seems to have destroyed the leaves of my *Lilium candidum*, and the flowers have followed suit so that scarcely a head or truss opened entirely, and some of them were completely blighted. Each bud would turn brown and then a darker color in spots, open unevenly or not at all. When the foliage remained decently green the flowers opened fairly. Would Bordeaux mixture or anything similar be beneficial, and if so when should it be applied.—(J. C. Morgan, Barrie, Ont.)

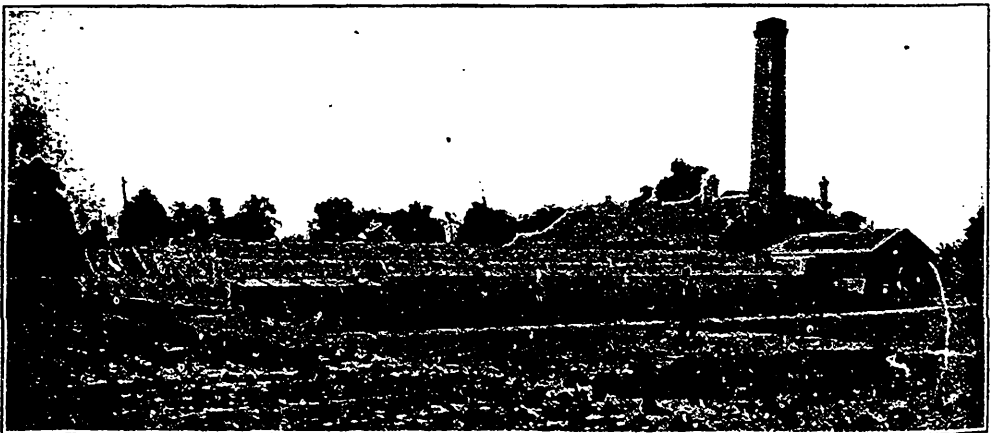
The disease is a very difficult one to treat, and one for which there is not any satisfactory remedy. Spraying with Bordeaux mixture in spring before there is any sign of the disease, and keeping the foliage and buds covered with it until the blossoming time, is a partial preventive, and if this is continued for several seasons the disease may be eventually eradicated. If the plants are sprayed after the disease is noticed it is too late.

Putting the bulbs in new soil is recommended, but this is not perfectly satisfactory. If the bulbs are removed it is wise to dip them in Bordeaux mixture before replanting. Success has been reported by taking up the bulbs shortly after flowering

and after they have been dried off, putting them in a bag with flowers of sulphur and shaking them well so that the sulphur will get well between the scales, then plant in new soil with the sulphur still on them. The surest way of getting rid of the disease is by destroying the bulbs and obtaining new ones known to be free of the disease and then to plant them in new soil.

**Big Strawberries** —Great Crops of Strawberries and How to Grow Them, is the title of a book written by the R. M. Kellogg Co., of Three Rivers, Mich. It is conceded to be one of the best books ever written on growing fancy strawberries. Every detail of strawberry growing is dealt with, and those who read it will find much valuable information. It contains nothing but common sense and the results of actual experience in berry growing, and will be sent free to all of our readers who will send their address to the publishers. An offer made by the firm will be found in our advertising columns.

I find the Early Richmond, Montmorency and Fay cherries are superior to any others I have ever grown for profit.—(John D. Wigle, Kingston, Ont.)



**Greenhouses and Trial Grounds of the Steele Briggs Seed Co.**

This illustration shows the greenhouses and trial seed grounds, at Toronto of the Steele Briggs Seed Co., whose inquiries are described elsewhere in this issue.

## FERTILIZERS IN THE GREENHOUSE

“THE only fertilizers I use in my greenhouses,” said Mr. J. H. Dunlop, the well known rose grower of Toronto, to a representative of *The Horticulturist*, who visited his greenhouses during January, “is the best cow manure, and ground bone, with occasionally a little soot to develop the color. I have tried a great many fertilizers and find nothing to equal these.

“When I replant the roses I use fresh soil, and when it becomes exhausted I begin to use the cow liquid, applying it once a week. About the middle of February I mulch with cow manure. This is done once or twice. Good clover sod from old pasture, with an admixture of bone dust, makes an ideal soil. The bone dust must be ground fine. I have had to discontinue the use of Canadian bone dust because I cannot get the manufacturers to grind it fine enough, and all I use is imported from Chicago. If permanent beds were used a coarser bone would answer, as it would gradually be absorbed, but for soil which is frequently renewed coarse bone means waste.

“I have used a fertilizer made from carcasses of animals, which contains a good deal of fatty matter. It is too strong, as it causes the leaves to fall off, and it parts with its ammonia too freely. Three days or so after being applied the ammonia begins to pass off, and for six or eight days continues to do so, hurting the foliage. In the spring, when the greenhouses are more fully ventilated, this objection would not be so great. The escape of ammonia can be checked to some extent by a covering of soil. The H brand when used should be

applied light and often. A 200 pound bag will cover about 3,500 square feet. I have also tried a fertilizer made in Peterboro, but cannot see any results.

Soot is applied in liquid form. The soot is put in a coarse bag and placed in water in a barrel or other receptacle. Lime, air slacked and sprinkled on the soil or used in the form of lime water is helpful. It tends to sweeten the soil.

“I may have to resort to the use of artificial fertilizers more and more in the future, as it is becoming increasingly difficult to procure cow manure. A Toronto city by-law compels the removal of cow byres beyond the city limits, and I cannot procure it from the country, as it pays the farmer better to use it on his own land. I have to pay double the price for it I had to two years ago.

“Great care and caution must be exercised in the use of fertilizers in the greenhouse. Each grower must experiment with his own soil and study results. Tests should be made on a small scale so that in case of failure the loss would be small. The aim in rose culture should be strong growth, stiff stem, deep green foliage and large and well colored flowers.”

Roses and carnations are Mr. Dunlop's specialties. He also grows a good many violets and some asparagus plumosus, smilax, chrysanthemums, lilies, lilacs, azaleas, rhododendrons, mignonette, etc. He has about three and a half acres under glass, half of which is devoted to roses, one-sixth to carnations, one-sixth to violets, and the remainder to sundries and to propagating houses. A visit to his greenhouses is a most interesting experience.

I notice that a row of apple trees planted in my orchard next to a row of walnut trees have not grown so well as the others, and some of them have died. It seems to me it does not do to plant apple trees too near walnut trees.—(A. Shaw, Walkerton, Ont.

Until my cherry trees are three years old I cut back all vigorous center growth. This extends the trees outward rather than upward. I give them as much of an umbrella shape as possible.—(John D. Wigle, Kingston, Ont.



## THE RED OAK AS A SHADE TREE

W. T. MACOUN, WITH ILLUSTRATION BY FRANK T. SHUTT.

**I**N the United States the oak is growing in popularity as a shade tree for street planting, and more trees are being planted every year. The popular species is the Pin Oak (*Quercus palustris*), which is of good form, and has attractive foliage which colors highly in the autumn.

This species is a native of the province of Ontario, but only grows in the natural condition in the southwestern peninsula. At Ottawa it has not proven satisfactory, as it is not very hardy and is a slow grower. There is a native species, however, which is doing remarkably well at Ottawa, namely, the Red Oak (*Quercus rubra*). This is a very hardy oak with a wide range in Canada, as it is found growing wild from the Maritime provinces to the height of land west of Lake Superior. It is a rapid grower compared with other oaks and compares very favorably in rate of growth with the hard maple.

The tree, though not particularly graceful, is of good form and has a particularly clean look about it. The leaves are large and prominently dentated, of a deep green and quite glossy. In the autumn they usually assume the rich tints for which the oaks are noted, and will remain on the trees until near winter and long after the leaves from other trees have fallen. The Red Oak is rarely, if ever, affected by insects or disease at Ottawa, and the absence of these, together with the other good points already mentioned, makes this tree particularly desirable for street planting, but, as it becomes very wide spreading with age, if planted for this purpose it should only be used on wide streets and avenues.

It has never, to my knowledge, been used for street planting to any extent either in Canada or the United States, but why it should not be is what we have yet to learn. The tree in the photo, which was taken at the Central Experimental Farm, was planted

in its present position nine years ago when it was about ten years old and about the size required for street planting. It is now 20 feet 8 inches in height, with a spread of



A 10 Year Old Red Oak Tree

14 feet. Another tree of the same age, growing in almost pure sand, which was transplanted when it was two years old, and has been in the same place since, at 19 years of age is 30 feet 6 inches in height with a spread of 24 feet.

No man with a spark of manhood in his composition cares to see his neighbor's home surroundings more tidy and beautiful than his own, nor to admit to the public that he is lacking in those evidences of culture and refinement of which these things are the outward expression.—(P. G. Keyes, Ottawa, Ont.

This is the fourth year I have advertised in *The Canadian Horticulturist*, my advertisement occupying a half column in each issue. I find it a paying investment and consider it one of the best means I have of making sales. William Fleming, Nurseryman and Florist, Owen Sound, Ont.

## HOUSE PLANTS IN THE WINTER\*

MISS PEEL AND MISS M'KEE, FORDWICH, ONT.

**W**E must first have a love for flowers if we are to be successful in their cultivation. A plant should not be watered every day whether it needs it or not. More plants probably die from over-watering than from any other cause. Stir the soil with your finger, and if it is dark colored and adheres to your finger the plant does not need water, but if it is dusty and light colored it needs watering. If the soil around a good, vigorous plant, growing in a warm room, shows signs of dryness it should be saturated to the bottom when it is watered. A poor plant with little foliage should not be watered often. It is better to wait until it is quite dry.

Plants breathe through their leaves and consequently require fresh air every day. If the leaves of the plant get covered with dust its breathing pores are stopped and the plant cannot live long. They should, therefore, be frequently sprinkled, or the large leaves wiped off with a wet sponge. This should be done every week at least. It will also prevent the eggs of insects, which may be on the plants, from hatching.

### FROZEN PLANTS.

It sometimes happens that through some mischance the plants in the windows become frozen. In such a case the best thing to do is to remove the plants, as soon as possible, into a cool, dark room, a little above the freezing point, and sprinkle them with water, then bring them gradually to the heat. Sudden heat will completely destroy the plants. Plants that have been frozen can often be saved in this manner. A good plan to guard against frost is to cover the plants at night with newspapers.

### STUDY YOUR PLANTS.

Amateur florists should study the habits of the plants in their collections in order to

give the special care needed by each variety. Not only does this apply pertinently to watering but to the position in the window. If you have a southern window for plants this will suit geraniums, heliotropes, roses and plants of that class, but begonias, primroses and many other plants adapted to house culture are not particularly fond of strong sunshine, in fact are often injured by full exposure to it. Find out what plants like partial shade and give them positions in the rear of the sun-loving plants. In this way the plants that require sunshine will not be robbed of it, and those which do not require sunshine will not be harmed by having an excess.

When arranging plants in the window garden aim always to have the view from the room pleasing. They are for home adornment and they should be most attractive from the home standpoint. A good general rule to follow for effectiveness in arrangement is to have the taller ones at the sides. This frames in the window and allows the sun to get at the centre of the group. If all the plants are sun-loving ones place the low growing ones next the glass with the taller ones behind. Do not crowd any of them.

The use of swinging iron brackets at each side of the window is highly advisable from the standpoint of utility as well as looks. Those holding three pots enable one to arrange small plants of a drooping nature, so that the effect is very fine. These brackets can be swung to or from the glass and are in every way preferable to shelves.

There is really no time nor occasion when flowers are out of place. In the home they serve a two-fold purpose, beautifying by their presence, and refining by their quiet influence.—(A. R. Goodman, Cayuga, Ont.)

## FLOWER AND PLANT LORE

EDWARD TYRRELL, TORONTO, ONT.

I WILL leave my history and lore of flowers and plants for a while, as our garden beauties are taking their rest, and write some of my gleanings about trees. The early Christian teachers of European nations taught that tree planting was an act of piety to God and a duty for the future.

A proverb of northwest India declares that three things make a man truly a man— to have a son born to him, to dig a well, to

grow and flourish unless it has a motto given at the time of planting. When the late Baron Bunsen was visiting Lepsius, at Berlin, in 1857, the antiquary requested him to plant a young oak in his grounds. I held the trees, writes Bunsen, while the earth was thrown over its roots, and I said in giving the name:

Oak, I plant thee, grow in beauty: straight and firm and vigorous stand,  
Bunsen is the name I give thee, flourish in the German land;  
For the house of Lepsius blooming, through the storm grow fair and free,  
And a shelter in the noonday to his children's children be.

It is of trees already grown and come to their maturity that I am interested. "And what a glorious object is a tree, how magnificent on the boundless plain or mighty hillside." But the solitary tree there is scarcely its match for beauty among such objects in the face of the earth. Well might Mrs. Hemans write:

The stately homes of England,  
How beautiful they stand,  
Amidst the tall ancestral trees,  
O'er all the pleasant land!

The elm, the patriarch of the family of shade trees, the majestic, the umbrageous elm. If we notice the frequent occurrence of the elm in situations where without it the landscape would be a blank, but with it exceedingly picturesque, the graceful outlines of its festoons of foliage painted on an evening sky, we cannot but allow that it ranks very high. Few I think of its brethren excel it in grandeur and beauty.

There are many handsome elms in the city, but the elm in the Normal school grounds (west side), a cut of which appears herewith, stands out very prominently. Although now, in winter, it shows many abrupt, twisted and irregular limbs, it is a glorious object in the spring and summer, its full top bending over toward the ground on every side (150 feet from side to side)



A Toronto Elm Tree

plant a tree. The planting of a tree is a trifling expense, there it grows and costs nothing but time. "Every tree is a feather in the earth's cap; it is a comfort, an ornament, a refreshing to the people. It is a virtue to set out trees and beautify God's earth."

The asking of a distinguished guest to plant a tree is a pleasant way of commemorating his visit: this has been done in the Allan Gardens here by members of our royal family. According to the German fancy no tree planted as a memorial will

with the dignity of the forest tree, and all the grace of the weeping willow, the architecture and handiwork of God, of which the eye never tires, and one leaves it refreshed and delighted.

Individual trees planted by famous men and women are often to be seen by those who visit the old land. About a century ago there was quite a fashion for planting willows. It is recorded the first weeping willow (*Salix Babylonica*) was introduced into England in a rather novel way by Alexander Pope, the well known poet, who resided at Twickenham, who received a bas-

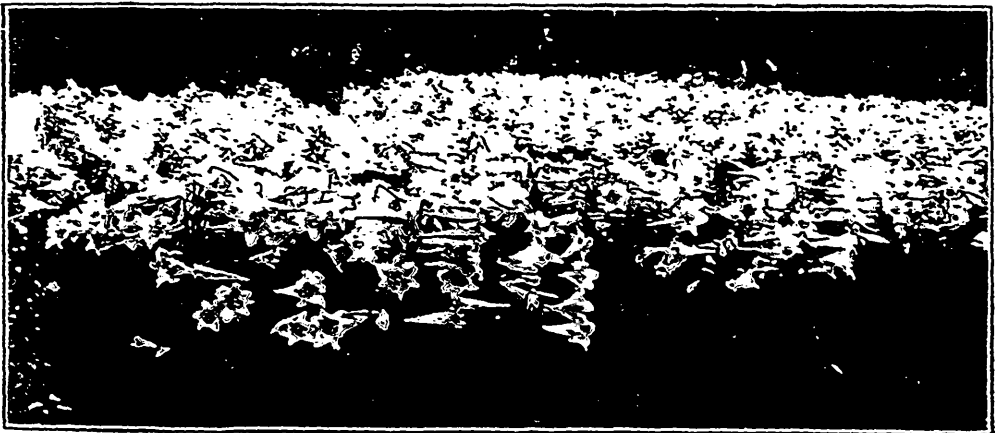
ket of figs from Turkey. He was told that the basket was made from the branches of willows, the very same species under which the captive Jews sat when they wept by the waters of Babylon. Being associated with so much that was interesting he untwisted the basket and planted some of the branches. Happily the willow is very quick to take root and grow, which they did, and one soon became a tree and drooped gracefully over the river in the same manner that its race had done over the waters of Babylon. It is said that from this source all the weeping willows are descended.

## CHRYSANTHEMUMS IN THE GARDEN

G. H. MILLS, TORONTO, ONT.

**D**O not try to grow chrysanthemums on a piece of heavy clay ground. They require a nice, medium loam. If you have such soil on the south side of a fence, without trees or buildings shading it, you are fortunate. Cover the ground with three inches of old manure and one pound of bone meal to a yard. Early in May dig and break up the soil until it is fine, and if the weather is suitable the planting can be done. The plants should be rooted early, say in March, and kept growing in pots until

planting time. If you want to grow them to a single flower you can plant them six inches apart in the rows and eight inches between the rows, but you can get nearly as good flowers by taking the top off the plants, as they will break and produce three or four shoots. The time to do this topping is when they are growing nicely outside. When hot weather sets in the plants will require lots of water. A mulch of one inch of old manure will prevent the surface of the ground drying and will hold the



Lilies as Grown in the Great Little Island of Japan.

Now that most people are thinking of Japan as a warlike country, it is a pleasure to find that many of our best lilies come from Japan. This shows a bed of lilies as grown in Japan under contract for the Steele Briggs Seed Co., of Toronto, as described

moisture at the roots. The plants will not thrive if allowed to dry out once or twice, but, on the other hand, it does not do to over-water them. Sprinkling the plants with the hose once a week will keep them clean. If the aphid gets on them take tobacco stems and soak them and syringe with the liquor. Should the chrysanthemum fly appear catch and kill him or he will soon spoil your plants. He is like the fly that spoils the asters, and two or three of them are able to quickly ruin 100 plants.

When the buds appear take all off but the top one, and if you feed with a weak liquid manure once or twice a week it will improve the flowers. If you can change the liquid by using say cow, horse and sheep

manure, one after the other, so much the better, but stop all feeding as soon as you see the buds showing color.

Try Madam Bergman the first year, and if you succeed you can try others the following year. You will by then have found out many little things not mentioned here. When the weather sets in cold, say six degrees of frost, secure some dry leaves and cover six inches deep and lay on some brush to keep them in place. In the spring uncover them and they will grow again from the stools around the plants: nice young plants will have rooted. Dig up the lot and take out the young plants. Prepare your ground as before, but this time put in the young plants from your own stock.

### MILDEW ON LETTUCE

VEGETABLE growers in the vicinity of Toronto, who are forcing vegetables for the winter markets, have been having considerable difficulty with mildew. One of the greatest sufferers has been Mr. J. W. Johnson, whose greenhouses were visited during January by an editorial representative of *The Horticulturist*. The mildew causes the leaves of such vegetables as lettuce to wilt and gradually kills the plants.

"By many the cause of the trouble is thought to be in the soil," remarked Mr. Johnson, "but I have proved that this is not the case. I resorted to sterilizing the soil, and at first it appeared as if this was an effectual remedy, but it turned out at a later stage not to be. I am now convinced that it is something in the house, as I have been growing lettuce for years and never had any mildew till I built my present greenhouse. You see I have two greenhouses side by side, in which conditions as to soil, etc., are precisely alike. Mildew has appeared in one and not in the other. One has brick walls, the other wood. The former is damper, and to this the mildew is

probably due. I put in underdrains and opened ventilating holes in the walls without producing any effect.



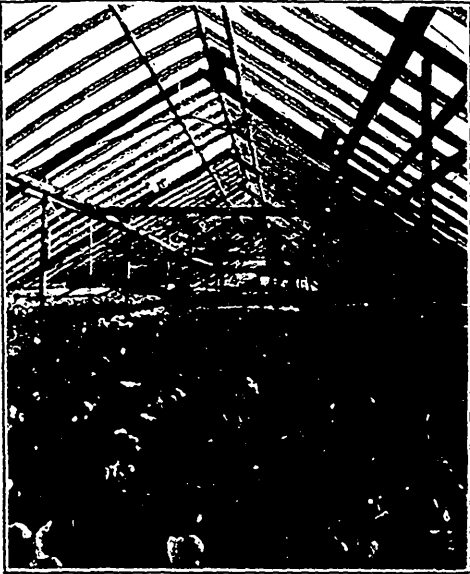
One of Mr. J. W. Johnson's Greenhouses.

"Ventilation has probably something to do with the matter. It is a curious fact that in one greenhouse, where the ventila-

ters open on hinges at the bottom, mildew appears, while in the other, where they open on hinges at the ridge, it has not appeared. Head lettuce appears to be more subject to mildew than bunch lettuce.

THE ONLY REMEDY.

"I have found sulphur treatment to be the only effectual remedy. I mix the sul-



Vegetable Growing in the Winter

phur to the consistency of cream and put it on the hot water pipes with a brush. If necessary to apply the treatment before artificial heat is required, a fire has to be lighted to heat the pipes, but the first crop, sown in

"A Practical Vegetable Growers' Association would be a good thing," remarked J. W. Johnson, of Toronto East, to *The Canadian Horticulturist* recently, "provided the members would live up to their agreement. The discussions at their meetings would be valuable, but such an association would be of little use in fixing prices. The farmers about Toronto have taken to raising a great deal of garden truck, which comes into competition with what the mar-

ket gardeners produce, and as this is a side line with the farmer they are willing to take less than the gardeners could afford to sell for. Under such circumstances it would be unfair to bind the market gardeners in the matter of prices."

August, when the air is drier, is not so subject to mildew as those which come on later. Watercress grown in the same greenhouse is sometimes affected with mildew, though it seems to have disappeared this year. The sulphur treatment has also proved efficacious in the case of chrysanthemums.

"Another enemy we have to contend with is the green fly. I find 'Nikoteen Aphis Punk' an effectual remedy. I hang it on wires while burning, and the fumes kill the fly. Formerly I used tobacco stems, but they burned the plants. The punk, which comes in rolls, is more expensive, but it is worth the difference.

"In growing lettuce some prefer to sow thick, and thin out, allowing the plants to mature where sowed. I prefer to transplant and get single heads. For bunch lettuce I set four or five inches apart, for head lettuce eight by ten. The temperature should be kept at 70 degrees by day and 50 degrees by night. Bunch lettuce should yield a crop every month; head lettuce every two months. I keep on sowing seed every two or three weeks, thus ensuring a succession of plants. Bad seed this year has interfered with the success of the crop.

"I am looking forward to the cucumber crop, for which I sowed the seed January 16. My cucumbers are ready about the middle of May and keep coming on till July, when the outdoor crop comes in. I also sowed my tomato seed January 16."

Have been a subscriber to *The Horticulturist* for 10 to 15 years. I appreciate the great improvements that have been made in that time. It has become a necessity in the house. I should miss it very much.—(W. H. Parker, Humber Bay, Ont.)

## THE MANURING OF MARKET GARDEN CROPS

GEO. CAMPBELL ARNOTT, MEMB. AM. CHEM. SOC., MEMB. ROY. AG. SOC. OF ENGLAND, ETC.

WHILST there is no excuse for the farmer not knowing how to manure his acres most profitably, the market gardener is entitled to more indulgence. The farmer is in the happy position of having placed at his disposal a vast amount of information gathered from carefully conducted experiments of practical men extending over many years both in Europe and on this continent, whereas very little attention has been bestowed upon a rational system of manuring in horticulture and garden crops.

Seeing that the same quantity of plant food, nitrogen, phosphoric acid, and potash required, for example, to produce a given quantity of mangels, grass, sugar beet, and other farm produce, can furnish a similar quantity of cauliflowers, green peas, salad, and similar garden produce, it requires no intricate calculations to see which is the most profitable investment.

The yield in garden vegetables being so much greater, the farmer having to be content with one crop per year, whereas the market gardener endeavors to obtain two or three crops in the same period, it follows that two or three times as much plant food is required per acre as is the case in ordinary field cultivation.

Success in the growing of vegetables depends particularly on the time when marketed, the quality of the product, and the yield per acre. It is a matter of experience that the earlier the vegetables are marketed the higher the price which will be secured, and that the early gathering of one crop permits the growing of another on the same soil the same season. The importance of being first in the market is appreciated by gardeners, and their constant aim is to be first in order to secure top prices. To do this and to be on the safe side the market gardener cannot afford to experiment and run the risk of failure. The increased

profit secured by the gain of a week is so large that if there is any way of securing it that method must be utilized to its fullest extent.

### HEAVY MANURING A NECESSITY.

The product of the market garden being mostly consumed in the larger cities the gardens are usually situated within a reasonable distance of them, and consequently able to obtain large quantities of stable and barnyard manure fairly cheaply. This, no doubt, explains the reason why heavy manuring has come to be considered a necessity for the successful growing of vegetables.

In the few text books which have been written the authors do not seem to have grasped the subject of manuring thoroughly, for they hardly go beyond naming as artificial or chemical manures such substances as bones, tankage, composts, horn shavings, wool and other refuse matters which are all very slow in their action, and even then all the plant food does not become available.

Slow acting manures are very well for the farmer who is not up to date and whose one crop is drawing its nourishment from the soil for six months and in some cases even longer, but the market gardener needs to get two or three crops off in the same time and cannot afford to depend on these slow acting, incomplete and dilute manures. The use of quickly available, that is, soluble, complete chemical manures has been conclusively proved to be the best and cheapest means of forcing garden crops on a large scale.

### INTERESTING EXPERIMENTS.

The most valuable contribution to our knowledge, on this subject is to be found in the data obtained by that celebrated agricultural chemist, Dr. B. Dyer, at his experiment farm in Kent, England, on market garden crops extending over nine years.

His figures thoroughly endorse those of other observers. To take one vegetable out of the many as an example, viz., cauliflowers. These were manured:

1. With an ordinary dressing of 14 tons barnyard manure per acre.
2. With double the quantity, viz., 28 tons barnyard manure per acre.
3. With 14 tons barnyard manure, supplemented by quick-acting complete chemical manure.

The results were as follows:

No.	Cost of Manure per Acre.	Average Yearly Weight of Crop per Acre.	Average Weight per Head in Pounds.
1.	\$24 00	14 tons 1680 lbs.	3.16
2.	48 00	18 tons 76 lbs.	3.87
3.	39 00	21 tons 784 lbs.	4.52

This was a gain over the ordinary manuring with barnyard manure of nearly seven tons per acre and more than 40 per cent. in the individual weight per head by the addition of quick-acting complete chemical manure costing only \$15 per acre; or a gain of more than three tons in the crop per acre and 17 per cent. in the individual weight of heads at a saving of \$9 per acre in cost of manure when double the quantity of barnyard manure was used.

In addition to this monetary gain the experimenters make the following statement: "That speaking generally the crops grown with the addition of chemical manure were uniformly of decidedly better quality than those grown with manure alone. That in the case of asparagus, cabbage, cauliflowers, etc., they far surpassed them in succulence,

flavor, and tenderness, being uniformly far less fibrous." This improvement in flavor and lusciousness has also been many times observed in the case of tomatoes, rhubarb, and most fruits.

In regard to the question of chemical manures inducing earlier crops, the same authority says: "This was particularly noticeable in regard to strawberries during one of the heaviest crops in recent years. The plot dressed with 14 tons barnyard manure produced 9,408 pounds, and when supplemented with chemical manure the total crop was only increased by 336 pounds. But in the first few days of picking nearly 700 pounds more fruit per acre were gathered from the latter plot, and during this time the market value of the fruit per pound was at least double that of fruit picked during the succeeding days.

It will thus be seen that the addition of a properly manufactured quick-acting chemical fertilizer to the barnyard manure is possessed of three distinct advantages: First, in the production of an earlier crop; second, in a vastly superior flavored crop; third, in a much larger crop obtained at considerably less cost.

It is to be hoped that some of our more advanced market gardeners will make trial of new methods, and from their new experience will most certainly learn to limit their expenditure in purchased barnyard manure and increase that in complete, quick-acting chemical manures as by far the most profitable.

### FORCING LETTUCE

"TO grow lettuce successfully," says Mr. J. MacNamara, of Bracondale, Ont., "the seed should be started in the hot bed before February 15. When this is done the plants are ready for setting out by April 10. They should be put out as early as the season will permit. I put them in

rows two feet apart and about five inches apart in the row.

"If the season is at all favorable the crop is ready for market by June, but last season it was somewhat later. The best variety for outside growing is Nonpareil, which forms a good head and finds ready market."



## FORCING TOMATOES

MARKET gardeners have been giving a good deal of attention in recent years to growing vegetables under glass. Canadian growers of tomatoes will find much to interest them in Bulletin No. 153 of the Ohio Agricultural Experiment Station, which has reached The Canadian Horticulturist. The results will be found in the following summary:

Greenhouse tomatoes, because of superior quality, sell more readily at much higher prices than the southern grown product on the same market.

Tomatoes grown in the spring have been much more profitable than either lettuce or cucumbers grown at the same season.

The average yield has been over two pounds per square foot and the average price 12 cents per pound. Thus the returns have been more than 20 cents per square foot of bench space.

Raised benches have the advantage over ground beds in earlier ripening of fruit.

Sub-irrigation or mulching is essential to success in tomato forcing and it is advantageous to combine both methods.

Ordinarily the tomato plants were set two feet apart each way and trained to two stems, but recent tests seem to indicate that plants set one foot apart each way and trained to one stem will give a higher yield and ripen earlier.

For a spring and early summer crop the seed should be sown in flats about the first of December. The plants may be pricked off into pots or flats, flats being more economical. The second and third shifts should be made into pots.

Under ordinary care plants from seed sown December 1 will be ready to set in the permanent beds about the middle of March, and the fruit will begin to ripen from the first to the middle of June.

Stiff wire, with a hook at the upper end and made into the form of a cork-screw at the lower end, screwed into the soil near the

plant, is a very satisfactory device to which to attach the lower end of the twine that serves as a support to the vines.

Strong twine running from the hook in the cork-screw wire to a wire stretched directly over the row of plants and fastened to the rafters, is a more satisfactory support than stakes.

In training plants to one stem all side branches should be kept pinched off. When training to two stems the lowest strong branch, which is usually the one just below the first fruit cluster, should be left for the secondary stem. All other branches or suckers should be kept pinched off.

Hand pollination is a necessary operation in the successful forcing of tomatoes. A wooden ladle and a spatula, with handles about 18 inches in length, are very convenient and helpful in doing this work. A dry atmosphere facilitates pollination.

The temperature of the house should be about 60 degrees Fahr. at night and the day temperature can be allowed to run up to 80 degrees with artificial heat and to 100 degrees or more with sun heat. No white-wash is needed on the glass.

The white fly, or plant house aleyrodes, is a troublesome insect to combat in tomato forcing. It can be controlled by fumigation with hydrocyanic acid gas.

Great care should always be exercised in fumigating with this gas as it is very poisonous and damage to plant and animal life may result from the careless use of it.

The leaf blight of the tomato (*Cladosporium fulvum*) Cooke, is very injurious if permitted to gain a foothold early in the growth of the plants. When present in a mild form toward the close of the fruiting period of the tomato, the damage resulting is in part offset by the earlier ripening of the crop. The Bordeaux mixture has proven beneficial as a preventive of the trouble.

The dry or tip rot of the tomato becomes

very destructive when allowed to have its way. This trouble seldom occurs to a harmful extent when there is an abundance of moisture in the soil.

Baskets holding five pounds are a very satisfactory size in which to market the fruit. When shipped they are packed in crates holding four baskets each.

Tomatoes when forced under glass are more inclined to grow irregular than when grown in the field; hence in selecting varieties for forcing it is important that they be such as naturally grow smooth.

### Fertilizers Benefit the Crops

EARL SPENCER, PICTON, ONT.

I AM a full believer in the use of fertilizers, having used them for over 20 years. The first year I applied one ton on yellow field corn. The result was a first-class crop. I receive increased orders every year and never have quite enough. We miss results in some crops every year. I think the seasons have something to do with it, or we do not understand the conditions of every part of our soil, but eight times out of ten we have the largest yields where we use fertilizers. My experience is that vegetables are more tender and sweeter, potatoes are larger and smoother and will not rot as quickly, and that berries are larger and will stand a drought better when fertilizers are used. The canning industry has reached the point where nothing but large yields will pay the growers. This means our soil must be full of plant food. A high grade fertilizer will forward a crop from start to finish, to say nothing about the foul seed that is introduced when ordinary manure is used.

In weeding out undesirable varieties of blackberries, the following were found too tender for this district, Early Cluster, Early Harvest, Minnewaski and Ancient Briton.—(A. W. Peart, Burlington, Ont.)

The Beauty and Stone are very satisfactory varieties for forcing. The Beauty is of better appearance than the Stone, but the stone is more prolific and because of greater firmness is better for long distance shipments. The Magnus, because of open foliage, is a good variety to force in ground beds.

Frogmore's Selected Forcing, Earliest of All and Combination are promising sorts but need further trial to prove their true value.

### Growing Early Cauliflowers

“TO secure cauliflowers for the early market I start the seed in hot beds about February 15,” said Mr. J. MacNamara, of Bracondale, Ont., to *The Horticulturist* recently. “As soon as weather conditions permit I select a cloudy day and transplant the young cauliflowers and cultivate frequently until they begin to head.

“When the head begins to form I turn the inner leaves over it to form a perfect shade so that the sun will not burn it. If a cauliflower receives a check it is likely to throw a small head and is of no more use, as it will never reach a saleable size. The best varieties are Gilt Edge and Snowball.

“For the early onion market I grow a Spanish variety. I start the seed in hot beds about February 15 and then transplant to rows 30 inches apart and three inches apart in the row, about the last of April or as early as possible. With plenty of cultivation these should be ready for market by July. For onions a sandy loam is better than dark loam, but a good crop can be grown on either.”

I neglected to bank around my young trees in the fall a year ago, but when snow came it was tramped around the trees, thus preventing the mice from injuring them.—(A. E. Mather, York Co., Ont.)

# The Canadian Horticulturist

The Only Horticultural Magazine in  
the Dominion.

OFFICIAL ORGAN

ONTARIO FRUIT GROWERS' ASSOCIATION.

THE POMOLOGICAL AND FRUIT GROWING SOCIETY  
OF THE PROVINCE OF QUEBEC.

PRINCE EDWARD ISLAND FRUIT GROWERS'  
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2. **Subscription Price** \$1.00 per year, strictly in advance 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.

4. **Discontinuance**—Responsible subscribers will continue to receive the *Horticulturist* until the publishers are notified by letter to discontinue, when all arrearages must be paid. Societies should send in their revised lists by January; otherwise it will be taken for granted all will continue members.

5. **Change of Address**—When a change of address is ordered, both the old and the new addresses must be given.

6. **Advertising Rates** quoted on application. Circulation 5,500. Copy received up 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

## A DOMINION CONFERENCE REQUIRED.

Fruit growers should press the proposal to hold a Dominion conference. This matter has been discussed and approved of by several of the provincial fruit growers' associations and the assistance of the Hon. Sydney Fisher, Minister of Agriculture, has been promised. The first move must come from the Dominion Department and a gentle reminder, at this time, from the fruit growers may, therefore, be in order.

Such a conference is greatly needed. There are many matters pressing for a solution which the fruit growers are unable to settle satisfactorily through their provincial associations. Several of the provinces are using different sized boxes, barrels and baskets for the shipment of fruit and considerable confusion is sometimes caused thereby. Certain sizes should be agreed on by the different provinces and adopted as the standard Canadian packages. Present conditions are little better than chaotic.

The marketing of fruit is a question which requires a great deal of careful consideration. An effort might well be made to see if anything

can be done to ensure growers receiving proper returns from commission dealers not only on this side of the Atlantic but on the other side as well. While the great majority of commission men are perfectly honest experience has shown that some are dishonest, and protection against such is what fruit growers desire. Many important phases of the transportation question could be dealt with more satisfactorily through a Dominion organization than provincially. Some provisions of the Fruit Marks Act and possible additions to it might well be dealt with.

Through the Dominion Department of Agriculture the leading dairy authorities in the different provinces have been enabled to hold two valuable conferences at Ottawa. A year ago the live stock men held a similar gathering. The fruit men should now press their case. No better time or place for such a meeting could be selected than the next provincial Fruit Flower and Honey Show in Toronto.

## CO-OPERATIVE ASSOCIATIONS.

The Ontario Fruit Growers' Association acted wisely last month when it decided to make an active effort to form more local fruit growers cooperative associations. More good will accrue to fruit growers through these local associations than in any other way. This is the best form of cooperation.

After growers have learned how to work together through their local associations the foundation will have been completed for a strong provincial organization. A provincial organization composed of scores of local cooperative associations would be in a position to settle many of the difficulties growers have to contend with in the marketing of their fruit. Without the local organizations to start with it will be a difficult matter to form a strong provincial association. Many of our growers have yet to learn the first simple principles of cooperation.

## VALUE OF FERTILIZERS.

Evidence of the great advances that are being made in the methods of growing fruit, flowers and vegetables may be found in the increased attention that is being given to the use of commercial fertilizers. A few years ago the man who purchased fertilizers was considered, by many, to lack in brains. To-day it is recognized that the judicious use of fertilizers, on most soils, is a profitable investment.

The reason there has not been a more rapid increase in the use of commercial fertilizers is due to the many mistakes that have been made by growers. Many growers, when they have heard the use of a certain fertilizer has proved profitable to some of their neighbors, have purchased the same fertilizer and used it in the same manner as their neighbor without stopping to consider the special requirements of their soil. These men, when not satisfied with results, have loudly proclaimed commercial fertilizers to be a fraud when the trouble has really been due to their own ignorance.

The most successful growers are those who study the needs of their soil and of the crops they are raising and who purchase the fertilizers best adapted to their needs. Some prefer to mix their own fertilizers. These men almost invariably make their investments in fertilizers net them excellent returns. An encouraging change for the better has taken place in many firms dealing in fertilizers, as they are now as anxious to sell growers the proper ingredients as the growers are to secure such. The dealers recognize that only by making the use of fertilizers prove profitable can they expect to secure an increase in their trade.

#### OUR TEN DOLLAR OFFER.

For some months *The Horticulturist* has been endeavoring to encourage its readers to purchase from its advertisers by offering to give ten dollars each month to the reader purchasing goods to the greatest value from advertisers in each issue. Recently we announced that Mr. Charles Mackey, of Thornbury, had won this money for one month by purchasing goods to the value of \$175.78 from the Waggoner Ladder Co. During January Mr. Mackey again applied for the ten dollar bonus, having purchased goods to the value of \$31 from J. A. Simmers, of Toronto, but this time he was unsuccessful, as Mr. G. D. Ellis, of Leamington, had exceeded his purchases having purchased bulbs and plants from Mr. Simmers to the value of \$37.37 and pots worth \$7.23 from the Potter Pottery Co. The value of Mr. Ellis' total purchases were \$44.60.

This means that Mr. Ellis received back from *The Horticulturist* almost one quarter of the total value of his purchases. As a handsome calendar is sent to everyone who purchases from our advertisers one of these calendars has been ordered for Mr. Mackey. The probabilities are that other readers purchased goods of greater value than Mr. Ellis did, but as they did not apply for the ten dollars the money was sent to Mr. Ellis. This should encourage other readers to apply for this bonus this month. Even if you do not win the ten dollars you will be sent a very handsome calendar provided you tell the advertisers you saw their advertisement in *The Horticulturist*.

The farm labor problem is still a live question. The attention of those of our readers who desire to engage help is called to an advertisement in this issue by the Bureau of Colonization. During the past two years the Farm Labor Bureau has distributed over 10,000 immigrants among the farmers and fruit and flower growers of Ontario. These immigrants have been brought to Canada as a result of the work in Great Britain of the agents of both the Dominion and Ontario governments. People desiring to employ labor should notify the Bureau of Labor. Their applications will be filed and filled as soon as a suitable immigrant asks for work. The department, when necessary, pays the railway fare of the immigrant to the nearest railway station of the person to whom he is being

sent. As it is probable the first immigrants will arrive very early this year applications for laborers should be made without delay.

An advertising representative of *The Horticulturist* recently visited Detroit, Buffalo, Rochester and other United States cities, but was unable to secure any advertising contracts owing to the Canadian tariff. This tariff does not prevent United States fruit papers from obtaining subscriptions in Canada for a year for twenty-five cents. This means that United States horticultural publications are able to invade our subscription field but that we cannot touch their advertising preserves. It is rather hard to be hit twice at the same time by the same stick.

Two matters of great importance to fruit growers are the proper use of fertilizers and spraying. Prominence has been given in this issue to the first of these subjects, and in the March number interesting articles from experts will be published on the importance of spraying. Advertisers desiring special positions should have their space reserved at an early date.

Readers of *The Horticulturist* who have any spare copies of the April issue, 1903, will confer a great favor if they will send them to this office. The supply is exhausted and more are required for filing purposes.

A long and prosperous life to the recently organized New Brunswick Fruit Growers' Association. The better the fruit growers in the various provinces are united the better for the industry as a whole.

#### A Question and Answer

Mr. A, an apple operator, purchases apples from Mr. B, a merchant in a small town, who engages Mr. C to do the packing in the orchards of the farmers in the neighborhood. Mr. A pays Mr. B for the apples when they are delivered to him, and Mr. B settles with the farmers. According to the Fruit Marks Act whose name should appear upon the barrels? In case of fraudulent packing or marking who is responsible?—(J. B. H.)

#### THE ANSWER

Alex. McNeill, Chief of the Fruit Division, Ottawa.

Mr. B as the owner of the apples at the time of packing should place his brand on the apples. Under the Fruit Marks Act A, B and C might each be prosecuted in case the apples were offered for sale fraudulently marked or packed. A under section 5 for offering for sale; B under section 6 or 7 for fraudulently packing or marking; and C under section 4 of the order-in-council for fraudulently packing only. It will be noted that C is not responsible for the grade mark and could only be prosecuted under section 7 for the crime which is usually called "overfacing."

## SELLING FRUIT IN GREAT BRITAIN ON COMMISSION

The charges that have recently been made that certain British importers of Canadian fruit have long had an understanding through which they have been able to keep down the prices of the fruit led *The Horticulturist* to write to Mr. W. W. Moore, at Ottawa, Chief of the Extension of Markets, to see if some of the Dominion Government's agents in Great Britain could not be utilized to investigate the truth of these charges. The following reply has been received from Mr. Moore:

Some time ago I noticed in the press a statement by a Mr. Cochrane, of Boston, in which he charged the importers of fruit in Great Britain with making fraudulent returns to apple shippers on this side of the water. As Mr. Cochrane's statement was copied by the Canadian newspapers I presume this is the matter to which you allude.

At the time Mr. Cochrane's statement appeared I noticed it, but did not consider it worth an investigation. I know something of the methods whereby the leading fruit brokers in Liverpool, London and Glasgow dispose of the apples they receive on consignment, and, as far as the principal firms are concerned, I do not believe they make fraudulent returns or act dishonestly in any way.

In Liverpool there are six firms who dispose of apples by public auction. From what I know of the manner in which these sales are conducted I do not think that it would be possible to form a combine to keep down the prices without such an arrangement becoming public. Of course, apart from the six firms I mentioned, there are a number of smaller concerns in Liverpool, each of whom handle considerable quantities of imported apples during the year. Some of these may be crooked and make false returns, but I have never heard any specific complaint regarding the business methods of any of the British fruit dealers.

This department has not "agents" in Great Britain in the proper acceptance of the term, but we have inspectors at the chief ports, whose duty it is to observe and report regarding the condition in which Canadian perishable produce is landed from the steamers and the handling it receives during the process of discharge. These inspectors are stationed at Glasgow,

London, Bristol, Manchester and Liverpool. The Chief Inspector is Mr. A. W. Grindley, who is stationed at Liverpool and who has local supervision of the work of the other inspectors. Mr. Grindley is a Canadian who has held his position for over six years. He is wide awake and energetic, and is thoroughly informed regarding the selling end of the apple trade. I shall write him to-day and bring the charges, referred to in your letter, before his attention, and as soon as I receive his reply I shall transmit it to you.

### A BRITISH OPINION.

The charges which have been made have attracted attention in Great Britain. The following clipping from the *Manchester Daily Despatch* may be of interest:

A strong appeal has been made on behalf of the fruit growers and fruit shippers of Canada to the High Commissioner to investigate certain grave accusations, formulated very definitely on the other side, against the foreign fruit trade of Liverpool, Manchester, and London. It is alleged that the English importers, who secure consignments of fruit through agents in Toronto, Montreal, Nova Scotia and Boston at prices to be determined at auction in England, have manipulated the market in collusion with the fruit salesmen of the auction rooms. By secret arrangement among the sellers and buyers concerned, the fruit is "knocked down" at prices that are unremunerative to the Canadian exporters.

Such an impeachment of the honor of gentlemen engaged in a most reputable branch of commerce, is not supported so far by sufficient evidence to warrant any special investigation by the Canadian authorities. Complaint of the low prices obtained for colonial fruit in the English market is chronic, and this year's slump in fruit, consequent upon an exceptionally abundant season, as it affects the exuberant imagination on the other side, is reflected in it is thought, in this daring indictment of the English dealers in fruit on the ground of bogus sales and control of the market by a dishonest fruit ring. The matter has gone too far in Canada, however, to warrant the trade involved in treating the charge with contemptuous silence.

## PACKING APPLES IN BOXES FOR EXPORT

ALEX. C. BIGGS, BURLINGTON, ONT.

Every fruit grower with a spark of pride for the fruit industry of this country must feel humiliated by the article which appeared in the January number of *The Horticulturist*, on Packing Apples in Boxes, by J. B. Thomas, of London, England.

The article gives the impressions of a very prominent apple dealer upon the new and growing custom of packing apples in boxes, which he discourages, not because it is not a good style of package but because Canadians do not know how to pack apples in boxes. His words are:

"I have observed the Canadian attempts at packing in boxes, and, with 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."

I do not agree with Mr. Thomas in the view that because we are not proficient in the packing of apples in boxes we should cast them aside. If such a rule had been applied to barrels years ago perhaps we should not be using them now. The box has its place for first-class fruit suitable for a certain class of customers, and the barrel for both first and second grades for those who favor it.

The day is coming when the markets will require that the best apples be laid down without bruising, and new appliances and methods will be adopted that will make it possible to do so.

### Unpleasant Truth From a Friend

A Canadian in Paris, France, writing to the *Orillia Packet* makes the following remarks about the Canadian fruit sold in that city:

All the hawkers' barrows lately have been filled with "pommes de Canada"—Canadian apples, which are loudly cried as such. In fact for a day or so last week one heard "Canada" on all hands. Some Canadians I know said they were ashamed to have it announced such horrid looking stuff came from the Dominion. The apples were octagonal, not rounded.

When will Canadian packers learn to put up their stuff properly? Where the apples touch each other there is a flattened space which at once starts rot. The consequence is the apples have been selling at 10 and 20 cents a pound, while the French hand-picked and properly cared for apples fetch more than that each. If oranges are wrapped in paper why can't apples be? Properly delivered here the best Canadian apples would fetch six to eight cents each, judging by what the local fruit realizes.

### Gardeners and Fruit Growers Unite

The Gardeners' and Fruit Growers' Association of the Hamilton district held a general meeting in Hamilton January 21. This is a live association, and the first gardeners' organization in conjunction with fruit growers in Ontario. The members would like to see a department in *The Horticulturist* on vegetable growing. This organization expects to take a prominent place among other conventions in the near future.

The proposal to place the Dominion Fruit Division under the Dairy Division was strongly opposed, and the following resolution was unanimously endorsed by the association: "Resolved, that this, the Gardeners' and Fruit Growers' Association of the Hamilton District disapproves of the proposed plan of the Dominion Government to place the fruit and dairying divisions under one head. We are of the opinion that such an act would materially cripple the fruit growing industry, and that the fruit division is of sufficient importance to have a head controlling that department; that this industry is occupying such a prominent place in the commercial trade of the country and should not be made subordinate to any other department. We strongly urge on the Hon. Sydney Fisher to exercise his influence in favor of the fruit growers of this country and to prevent the proposed union of these two divisions."—(W. C. Webster.

We have advertised in *The Canadian Horticulturist* for several years and find it a very good medium for reaching fruit growers.—(The W. A. Freeman Co., Hamilton, Ont.

The box seems to be the best package for that purpose. I am in favor of the central packing house system, which can only be secured by co-operation.

### English Fruit Market Depressed

W. A. CLEMONS, OTTAWA.

The Extension of Markets Division, Department of Agriculture, Ottawa, is in receipt of a letter from Geo. R. Mecker & Co., receivers of Canadian and American fruits, Covent Garden, London, in which the following paragraphs occur: "The great thing is to get apples over here packed as tightly as possible, and, above all, the fruit should not be in any way damaged by frost. Our market is in a state of collapse, owing, in the main, to badness of trade, and also to the fact that there are very large quantities of apples that have been placed in cold storage in Southampton. This experiment is not panning out well, and the prices are so low that we cannot imagine that they can be otherwise than ruinous. Who is the loser in the transaction we cannot say. Somebody must be getting hard hit, and we believe that will be the first and last attempt at cold storage in this country, unless exceptional opportunities present themselves in the way of short crops on this side."

The Liverpool market is also very demoralized, our agent there telegraphing us as follows: "Market very demoralized, but anticipate revival shortly; great danger in shipping frosted fruit, which prejudices trade generally."

Edward Jacobs & Sons, fruit brokers, Hamburg, Germany, write under date of January 12: "The prospects are very favorable for good apples; satisfactory prices may be realized, and we hope that some Canadian shippers will give us a trial."

**A Valuable Publication.**—The *Horticultural Directory* for 1905, recently published by the *Journal of Horticulture*, of London, England, is full of useful and well arranged information for all interested in horticulture in connection with trade in Great Britain. The directory contains complete lists of London seedsmen and florists, as well as in all the larger cities in Great Britain, lists of nurseries, gardeners, and horticultural builders, engineers, implement makers, etc., making a most valuable reference for horticulturists. Horticultural societies of any prominence, with their officers names and addresses, are given, not only for Great Britain, but all over the continent, and America as well, including Canada. The value of the work can be somewhat gauged when it is known that the directory shows an increase of upwards of 4,000 new names and addresses since 1894.

Allow me to congratulate you on the excellence of the report furnished in the December issue of *The Horticulturist*, of the annual convention of the Ontario Fruit Growers' Association.—(R. M. Palmer, Victoria, B. C.

# THE ANNUAL MEETINGS OF HORTICULTURAL SOCIETIES

The annual meeting of the Port Hope Horticultural Society was well attended, considering the weather. Those present were enthusiastic in their enthusiasm, therefore a profitable meeting was the result. The following officers were chosen: President, F. Outram; secretary and treasurer, J. G. Jackson. A committee was appointed to wait on some of the owners of vacant lots to seek permission to transform them from their dilapidated condition. It was decided to ask the town council for financial aid toward carrying out the work for the year. It was voted to continue to subscribe for *The Horticulturist*.—(J. G. Jackson, secretary.)

## MIDLAND SOCIETY.

The meeting of the Midland Horticultural Society was a decided success in spite of a heavy storm. There is a growing interest in horticulture in the town, owing largely to the free distribution of seeds to the public school children. Election of officers resulted as follows: President, F. Cook; secretary and treasurer, E. H. Piggott. We have decided to distribute more seeds this year and to put out flower beds at the schools. A liberal share of the members have sent in their names for *The Horticulturist* for 1905.—(E. H. Piggott, Sec'y.)

## PICTON SOCIETY.

Picton society elected the following officers. President, Thomas Bog; secretary and treasurer, W. T. Ross. The business brought before the meeting and plans for work this year were discussed with much enthusiasm. It was left with the secretary to ascertain the desires of members as to their receiving plants, seeds or bulbs for the spring distribution, and their preference for a magazine for the year.

## GRIMSBY SOCIETY.

Each member of the Grimsby Horticultural society voiced enthusiastically the sentiment of progress. A committee of seven was appointed to select two plants for the spring distribution; another committee was appointed to arrange for a series of house meetings, at which it is proposed to have discussions on subjects pertaining to flowers, fruits, etc. Mr. Adam Rutherford was elected president and J. W. Brennan secretary.—(J. W. Brennan, Sec'y.)

## KINCARDINE SOCIETY.

The Kincardine society elected officers as follows: President, William Walsh; secretary and treasurer, Joseph Barker. Owing to stormy weather but few were present at the meeting, which however lacked nothing in interest and enthusiasm. The president's and secretary's reports showed that satisfactory progress had been made. Mr. Barker expressed the belief that the membership will be increased this year to at least 150, while President Walsh was of the opinion that the 200 mark should be reached. The treasurer's financial report showed receipts for the year were \$281.40 and expenses \$274.54. About 125 copies of *The Horticulturist* were distributed among the

members in 1904, and the secretary reported that "The Horticulturist is highly prized, as is evident from the anxiety manifested by members when any of the numbers happen to go astray."—(Jos. Barker, Sec'y. (Copies of both the president's and secretary's reports were received by *The Horticulturist*, but had to be omitted owing to lack of space.)

## OTTAWA SOCIETY.

The Ottawa society elected W. G. Black president and J. P. Watson secretary and treasurer. The improvement of the city on horticultural lines is the aim of this society, and the city council is to be asked for aid in the shape of a grant of money and legislation. The matter of pruning and planting trees on the streets of the city was thoroughly discussed. The society has done good and great work in the past, but is in need of money to extend its influence. Most of the money received by the society is paid out in premiums to the members. During 1904 one annual meeting, six general meetings and exhibitions, and six directors' meetings were held. Cash prizes amounting to \$301.75 were paid, and the balance in the treasury is \$28.85. The membership was 226.

## ORANGEVILLE SOCIETY.

The Orangeville Horticultural society elected Mr. Robert Mann president and reappointed Mr. Andrew Hill secretary-treasurer. The president reported that fruit trees, ornamental shrubs and flowering bulbs had been distributed to the value of \$106.55, copies of *The Horticulturist* had been sent to the members, together with a most interesting and useful pamphlet on bulb culture, and bound copies of the annual report of the Fruit Growers' Association. The society has kept alive an interest in horticultural matters in the neighborhood and has been able in many ways to assist in the improvement of the home garden and orchard. The total disbursements, in horticultural effort, amounted to over \$245. A committee was appointed to select the plants for distribution this year. (A. M. Hill, Sec'y.)

## ELMIRA SOCIETY.

The Elmira society elected Mr. R. B. Martin president and C. W. Schierholtz secretary and treasurer. The membership was 61, and it is hoped that this number will be materially increased this year. The society intends to hold a flower show during the summer, and meetings for the discussion of horticultural and horticultural subjects. A distribution of seeds and plants will be made in the spring. A balance of \$55 is on hand.

## WOODSTOCK SOCIETY.

The Woodstock society elected for their officers: President, Mr. R. W. Woodruff, and secretary and treasurer, Mr. M. Dawes. A vote of thanks was given to Mr. J. S. Scarff, the retiring secretary, for his untiring and earnest efforts. The president's address showed that the society had endeavored to secure a park commission, composed of members outside the

city council, which it was the opinion would be a long step in advance of the present system. In all probability the society will take the matter up at a later date. The annual flower show was held in August and was the best ever held in the city. The society expended during the year \$86.09 on plant distribution and \$90.30 on horticultural publications. The Horticulturist being a favored one. The president suggested that it would be a wise move for the members to take another step forward by putting the care of the parks of the city under a more permanent management. A balance of \$58 was shown in the treasury.

#### LONDON SOCIETY.

The London society elected as president Mr. Charles James Fox, and secretary and treasurer, Mr. R. W. Rennie. During the year five meetings were held for business, in addition to the annual meeting. Two very successful flower shows were given in the summer. At both these shows the displays were very fine. Two distributions were made to the members in the spring, three named perennial phlox were given, and a good supply of aster seed. In the fall each member received 25 choice tulip bulbs. "Gardening," a semi-monthly publication, was subscribed for and mailed to each member during the year; it proved to be too professional in its character and entirely unsuited to the requirements of the members. It will conse-

quently not be renewed this year. In the early part of the year a civic improvement society was organized. To it was transferred the management of the garden competitions and the awarding of prizes for the best kept school grounds in the city. This new society has already been able to effect some of the improvements aimed at.

#### OWEN SOUND SOCIETY.

The meeting of the Owen Sound Society was rather poorly attended, but much enthusiasm and interest was shown. Dr. Allan Cameron was chosen as president, and Miss Lou A. Harrison was re-elected as secretary and treasurer. The meeting February 24 will be an interesting one, the subject for discussion being How best to beautify our cemetery and parks. Subjects for future meetings will be arranged at an early date.

#### SIMCOE SOCIETY.

The Simcoe society devoted itself last year to giving out trees, shrubs, plants, seeds and small fruits, thus improving the homes of members, and aiding others in the same work and beautifying the town. Only one meeting was held, and that in winter, when the Department of Agriculture sent the speakers. We distributed to school children many garden and flower seeds, and they were much interested in the growth and care of the same.—J. Thos. Murphy, Sec.-Treas.



## Two Year Old Tea Roses (for Easter blooming)

GERANIUMS (newest varieties), GLOXINIA and TUBEROUS ROOTED BEGONIA BULBS, PIERSON and BOSTON FERNS, BEGONIAS, AZALEAS (in bloom), OTAHEITE ORANGES (in fruit), CANNAS (dry roots), CHRYSANTHEMUMS (large stock of young plants in a few weeks).

Quotations cheerfully and promptly furnished.

**The Webster Floral Co., Limited, Hamilton, Ont.**

Florists, Nurserymen and Seedsmen

# The Capelton Chemical & Fertilizer Co'y

ESTABLISHED 1890

Brands Manufactured: Royal Canadian, Victor, Crown, Corn, Reliance, Capelton

You should use Fertilizers on everything from House Plants to Field Crops, as it pays to get out of the soil all it can produce. The only way to do so is to feed the plants with fertilizers as you do your stock. NO WEEDS, NO CUT WORMS, MUCH LARGER CROPS WITH IT THAN WITHOUT.

Help build up Canada by using Canadian goods as everything used by us excepting Muriate of Potash is produced in Canada. The Government Reports for past years show, that we give better value for your money than any Fertilizers on the market.

We never lose a customer who once uses our goods. Give us a trial order for a few hundred pounds, say \$5.00 worth, telling us what you want to use it for. We guarantee you will be regular customers ever after. If there is no agent in your section, write direct. Agents wanted in every county and township in Canada.

**The Capelton Chemical & Fertilizer Co., Buckingham, Que.**



## THE TORONTO SOCIETY.

At the annual meeting of the Toronto Horticultural Society H. R. Frankland was elected president; W. G. Rook, first vice-president; Geo. Musson, second vice-president; Charles E. Chambers, secretary, and W. G. Rook treasurer.

## ORILLIA SOCIETY.

Orillia's society elected C. L. Stephens president and T. W. Robbins secretary and treasurer. The treasurer's report showed an expenditure of \$168.65, with receipts of \$187.83. Membership for the year was \$1. There were 586 entries at the fall flower and fruit show, and \$175 was given in prizes. The society has decided to supply the pupils of the various schools with seeds and to offer prizes for competitions for flowers grown from these seeds. It was proposed to renew the efforts to have the streets lawns, etc., kept more tidy and uniform.

## LINDSAY SOCIETY.

The attendance at the annual meeting of the Lindsay society was not large. The secretary's report showed a balance on hand of \$34.50. The officers elected were: President, Mr. Robert Chambers, and secretary and treasurer, F. J. Frampton.

## CAYUGA SOCIETY.

By paying \$1 every member of the Cayuga Horticultural Society will be entitled to select one of the following: The Canadian Horticultural

tourist for 1905 and seven Norway spruce 2 feet high, or five shrubs of leading varieties, or 15 gladioli, or 33 choice gladioli; second, seven Norway spruce trees 2 feet high, and 65 gladioli or 33 choice gladioli, all of which will be supplied by Campbell Brothers, of Simcoe; or third, one dozen bedding geraniums, mixed colors, and one dozen coleus or ageratum.—(A. K. Goodman, secretary.

## Toronto Gardeners and Florists

The newly elected officers of the Toronto Gardeners' and Florists' Association are George Douglas, president; E. F. Collins, secretary, and Geo. Mills, treasurer. The representatives to the Industrial exhibition are J. H. Dunlop and W. H. Foord. The above are all active members and the association should have a successful year.

The executive has prepared an interesting program of subjects for the monthly meetings. The annual carnation show will be held in St. George's Hall, February 16, when the exhibits of roses and carnations promise to be the finest ever seen in Canada.

Am very well pleased with The Horticulturist. Hope you may be able to continue improving it in the future as in the past.—(T. A. Chapman, Baltimore, Ont.

## Experience Counts

Having spent 25 years in the fruit business, we know fairly well the wants of our customers. Scions and buds are taken from bearing trees in our orchards. Therefore, we know what we grow.

## Buy the Best

We grow first-class stock and always send everything **True to Name**, because we believe **Honesty is the Best Policy**; and our system of labelling is perfect.

## Apple Trees

Largest and best stock in Canada.

All standard varieties of **FRUIT TREES**, **ORNAMENTALS**, **PLANTS** and **VINES**

Salesmen Wanted. Write for Illustrated Catalogue.



**E. D. SMITH,** = = **Winona, Ont.**

**Give Your Orders Early.**—In the January issue of *The Horticulturist* a reader stated that during this, the slack season, growers are anxious to order many of their supplies for next summer and fall and complained that there were few advertisements of fruit growers' supplies in *The Horticulturist*. There is a marked improvement in this respect in this issue, which carries the largest amount of advertising in the history of *The Horticulturist*. A specialty of fruit growers' supplies is made by the F. Hamilton Co., whose advertisement appears on the back outside cover. Notice also all the fertilizer advertisements. Patronize our Canadian rather than United States advertisers.

Enclosed find check for two years' subscription to *The Horticulturist*. Please continue your valuable paper.—(J. E. Morse, Wolfville.)

## A GIFT OF \$10.00

Will be given the reader who buys goods to the greatest value on or before **Mar. 15th, 1905**, from the advertisers in this month's issue of *The Horticulturist*. - - -

**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.

Application for this bonus must be made to this office on or before **Mar. 18th, 1905**.

Address,

**ADVERTISING MANAGER,  
The Canadian Horticulturist, TORONTO, ONT.**



### APPLE TREES \$5.00 TO \$10.00 PER 100

**Currant Bushes and Grape Vines, also Poplar Trees, for sale at bargain prices, boxed free.**

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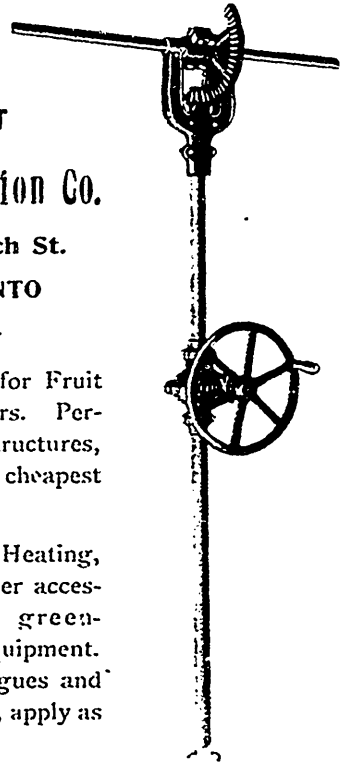
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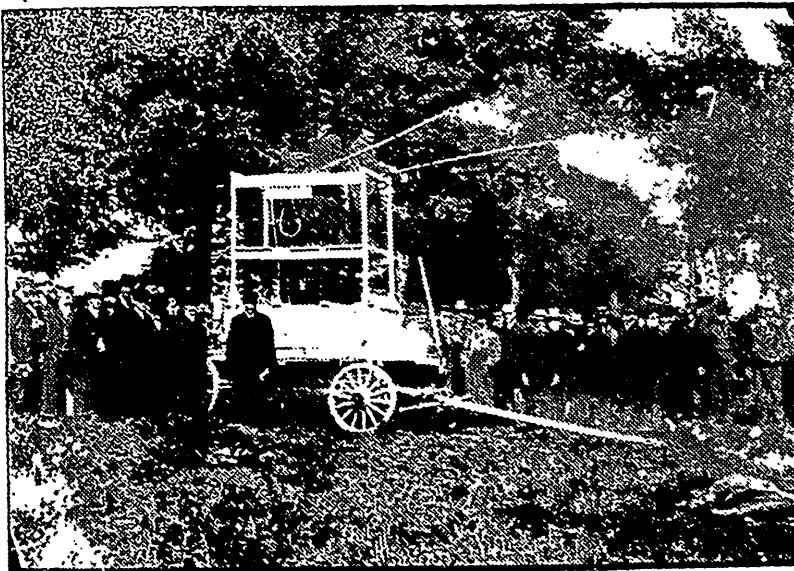
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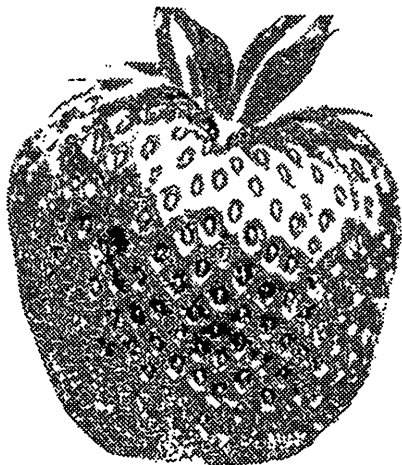
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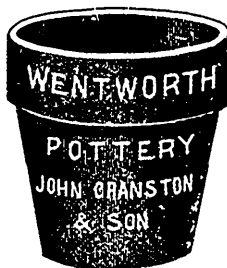
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