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THE
CANADIAN HORTICULTURIST &

BEEKEEPER

VOLUME 24, No. 7
\$1.00 a Year

PETERBORO, ONT.
JULY, 1916



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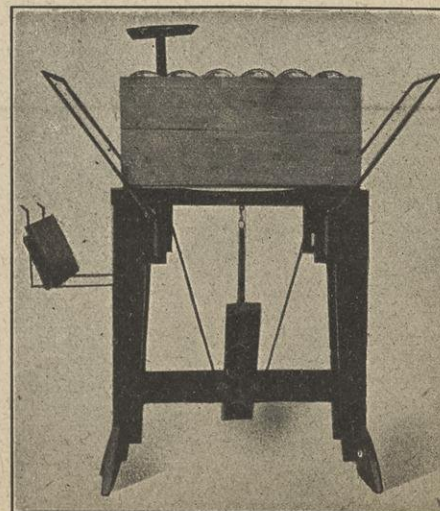
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The Canadian Horticulturist

Regular Edition.

Balcony on the residence of J. G. Moore, St. Catharines, Ont. Photo by H. C. Goodman Cover

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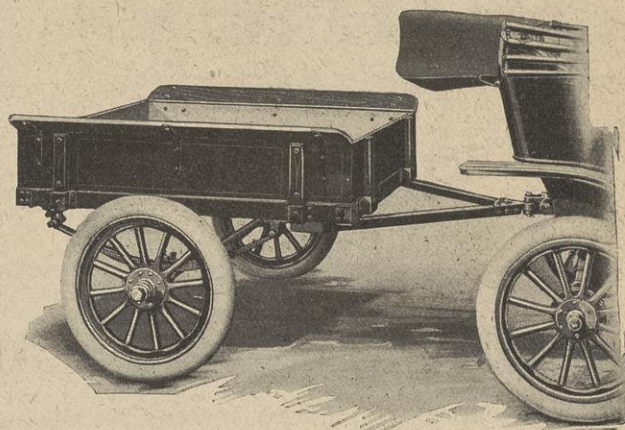
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HAUL your fruit and vegetables to market the new way—with a BRANTFORD TRAILER.

The small margin for the grower to-day demands efficient marketing methods. The BRANTFORD TRAILER is a simple and efficient way of making your automobile a working asset.

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The Ideal Fertilizer for Fruit Growing

Basic Slag has been used in the orchards of the Annapolis Valley for 20 years. The consumption in the season just ended was 6,000 tons. What makes money for the Nova Scotia apple growers will be found equally profitable in Ontario.

Sydney Basic Slag costs \$20 per ton at Ontario Stations for cash. Contrast this with what you have been paying elsewhere and we think you will find it to your interest to investigate. Perhaps you could take a carload of 20 tons and distribute same among your neighbors. You will be reasonably remunerated for your trouble and you will earn their gratitude for introducing Basic Slag into your district.

An interesting pamphlet by the well known fruit grower, Mr. S. B. Chute, of Berwick, N.S., on the use of Basic Slag in the orchard has just been published and a copy will be sent on application.

Our general Salesman has now started selling operations for next season. Send us your name and address and we will arrange for him to give you a call during the next few weeks.

The Cross Fertilizer Co., Ltd.
SYDNEY, NOVA SCOTIA

The Canadian Horticulturist and Beekeeper

Vol. 24

PETERBORO, JULY, 1916

No. 7

The Dust Spray Under Test in Ontario

THE reports of the success which has attended the use of the "dust spray" in New York State resulted, this year, in a number of these machines being introduced into Ontario. One is under test also by the Dominion Government in Nova Scotia. While it is still too early for it to be determined how effective this spray has proved the following reports on the use of two of these machines should prove of interest.

Prof. L. Caesar, provincial entomologist, who has been testing these machines for the Ontario Department of Agriculture, writes: It would be unwise at present to express any opinion on the effectiveness of the so-called "dust spray" as a means of controlling insect pests and fungus diseases of orchards. There are at least half a dozen men in Ontario experimenting with this new method of spraying this year. Mr. W. F. Kydd and I are also each conducting a series of experiments. The season already shows that fungus diseases will be very bad in unsprayed orchards in at least a considerable part

of the province and probably in all of it, thus affording a good opportunity to test the merits of this new method of spraying. I, therefore, hope to have much reliable data available for a report at the Fruit Growers' Convention next autumn. There are a few things that we may briefly refer to now and that may be interesting:

(1) The dust spray is certainly much more rapid for large trees than the old method. I have not got my notes by me as I write, but I am safe in saying that I can do about as many acres of large trees in two hours with one of the large dusting outfits as I can do with the best power sprayer for liquid sprays in two days, that is, if the work is done with equal thoroughness in each case. Of course on small trees there is not nearly so great an advantage in time saving as on large ones, though there is considerable there too.

(2) The dust machine requires only two men to operate it, compared with three for the liquid spray outfits.

(3) The fear that some held of danger to the operator from inhaling the

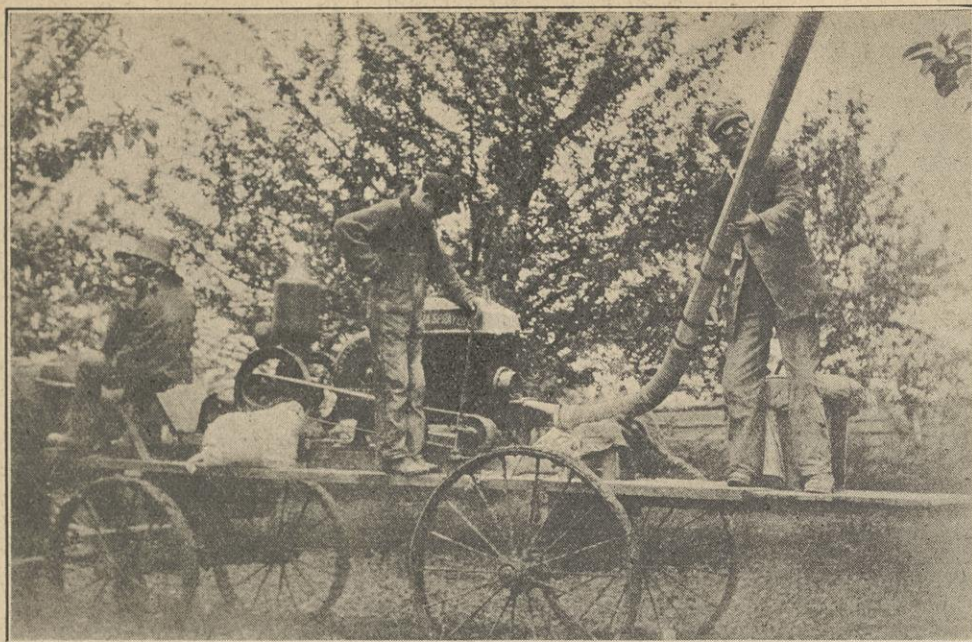
dust is not justified, unless, of course, one is foolish enough to try to spray against the wind. Goggles should be used, automobile goggles being, in my opinion, the best kind, as they enclose the eyes better than any others I have seen.

(4) The spraying should preferably, in most cases at least, be done on a calm day and at right angles to any little breeze there may be, so that one may go up one side of the row and down the other, finishing everything up as he goes. If calm weather does not occur when wanted it is, in my opinion, better not to wait but to spray with the wind and do the other side either when the wind changes or the first calm morning or evening that occurs. It is impossible to spray very high trees in a strong wind.

(5) It requires nearly as much care to do a really thorough job with the dust spray as with the liquid. The very best man on the place should do the work, and he will find that he has to use both his brains and his hands as



More than ever female help has had to be used this year in gathering the strawberry crop. A scene in the Niagara District. (Photo sent by F. S. Reeves.)



"Dusting" in the orchard of W. H. Gibson, Newcastle, Ont. (Photo by R. S. Duncan.)

quickly as possible to cover large trees properly and not waste the material.

(6) So far as I can judge the net cost of the dust spray will not be greater on large trees than that of the liquid spray. The materials cost a great deal more but the time and labor required are much less.

(7) In a wet season like this the dust spray, if it is effective, would be a great boon because the outfit is light and horses could easily take it through any orchard that they could walk through. Moreover, the time required to do an

orchard is so short that one could easily, no matter what the weather is, find sufficiently long dry spells to do the spraying.

Every fruit grower will wish for the success of this new method of spraying and will be disappointed if it should as a result of the season's work prove to be unsatisfactory. I hope that if it is found efficient as a controller of fungus diseases a fairly good dust preparation for the dormant spray can be evolved in a year or two.

Dust Sprayer Tested in Mr. Gibson's Orchard

R. S. Duncan, B.S.A., Port Hope, Ont.

RECENTLY I had the privilege of inspecting a dust sprayer at work in the orchard of Mr. W. H. Gibson, of Newcastle, Ontario, Durham county.

The duster proper appears to be a simple machine. It consists of a large hopper, air tight, which will hold one hundred and fifty pounds of the dust spray material; a special feed device equipped with revolving brushes which force the material through a fine screen and finally into the air chamber at the bottom of the hopper, and a high speed fan which produces a forced current of air directed through the bottom of the hopper. This picks up the dust and carries it through the discharge pipe where it bursts into a dense smoke-like cloud which practically covers the apple tree.

The accompanying illustrations show the duster at work with Mr. W. H. Gibson directing the spray. The dusting machine cost \$150.00 f.o.b. Newcastle, without engine or trucks. Mr. Gibson coupled one of his gasoline engines to

the machine and placed the outfit on a set of old trucks.

Material Used.

The material used for spraying is known as "Poison Dust Sulphur," which consists of eighty-five per cent. of very finely ground sulphur and fifteen per cent. of dry powdered arsenate of lead. The quantity recommended to be used per tree is determined by the size and shape of the trees, and also by the thoroughness of the application. This varies from one to two pounds a tree for each application. This material was purchased in bags with the analysis stamped on the outside at a cost of six and a half cents a pound f.o.b. Burlington. From personal observation it was evident that a great waste of material would occur in a very high wind, and that for best results spraying on a calm day would be advisable.

Mr. Gibson was spraying trees fifteen years of age at the time of inspection, and the horses walked right along.

The outlet pipe or blower was handled in a verticle or up and down motion which distributed the cloud of dust over the trees. In this fashion it is claimed that forty acres can be sprayed in one day. Whether this can be accomplished by actual practice remains yet to be demonstrated.

When to Spray.

The time of application of dust mixtures does not differ from the time of application of liquid sprays. They should be applied for the second and third sprayings when pink is beginning to show in the blossoms and after the blossoms have fallen. The claim is made that both insects and fungi can be controlled if spraying is done thoroughly.

This dust spray, however, is of no value for the control of oyster shell bark louse and san jose scale on the dormant wood. The liquid spray will still have to be used for this application.

The chief advantage in spraying with the dust material is the saving in time and labor, especially where a grower has a large acreage to spray. The cost of the materials, however, is much greater, which, perhaps, would be offset by other factors mentioned.

As to the efficacy of the dust spray I would not at present venture an opinion. This is being tried out in an experimental way this season by Mr. Gibson, and by the Department of Agriculture under the direction of Prof. L. Caesar, Provincial Entomologist. Should scab and insects be controlled effectively the dust spray will prove a boon to the large apple grower.

Leaf Curl Disease of Peach

The cool, moist weather this spring has been conducive to the spread of the leaf curl disease of the peach. Because of this the Ohio Agricultural Station has had numerous complaints, more especially from northern Ohio, of the curling, yellowing and dropping of leaves of peach trees, and of the threatened defoliation of the trees. In consequence it has issued a circular explaining certain varieties of peaches, especially Elberta, Lemon Free and others that are very susceptible. This is caused by the leaf-curl fungus, which lives over as threads of the fungus in the buds, though we do not have leaf curl outbreaks of a serious character every season.

The survival of the disease in the buds calls for treatment in the early spring before the fungus has attacked the leaves. Dormant strength of the lime-sulphur sprays, or of standard Bordeaux mixture, or combinations of the two, applied in spring as the buds

are swelling, or about two weeks before blossoming, are effective—many times more so in fact than later applications. The scale control strength of lime-sulphur as a dormant spray will control leaf curl at the same time. It is scarcely possible to do more than check a little secondary leaf infection at this time.

The consequences of the loss of leaves may be rather serious when the loss is excessive. The most apparent results are dropping of the fruit, with general reduction of the vigor of the diseased trees. Commonly the diseased trees form new leaves, in fact ripen fruit buds, as well as the reduced crop of fruit.

It seems probable that as an immediate measure of relief (date, June 8) some good will come from spraying the peach trees with the self-boiled lime-sulphur spray mixture, making two applications at intervals of two or three weeks. No strength of commercial lime-sulphur concentrate or of home-boiled concentrate is safe to apply on peach trees in foliage. Self-boiled lime-sulphur is made at the rate of ten pounds stone lime, ten pounds flowers of sulphur, to fifty gallons. Peach growers are warned that the real measures for leaf curl prevention are to be used in the spring before the blossoms open, and that tardy and ineffective treatments are rarely satisfactory.

Marketing Tender Fruits

C. W. Baxter, Dominion Fruit Division, Ottawa

THERE is no product of the soil or manufactured article over which the producer, shipper or manufacturer exercises so little control in marketing as in the marketing of tender fruits. This may, at first thought, appear to be a drastic statement, but let the fruit grower try to enumerate the commodities which he must purchase where the price is not definitely stated by the merchant and he will find that they are few, if any. In fact, for many commodities, the price asked by the retail merchant, is fixed by the producer or manufacturer.

To make a direct comparison between staple products and tender fruits would be unfair because the very perishable nature of the latter makes this impossible. Nevertheless, there are cer-

tain fundamental principles lacking in our present marketing methods which, if applied, would eliminate much of the "gambling" element, which is very evident, and would put the fruit industry on a more solid business basis.

In a season of short crops it does not require any great salesmanship ability to market the fruit, the demand being greater than the supply. In a year of big crops, the usual method is to sell all possible on an f.o.b. basis, and the balance is consigned to the various markets without control. In other words, the producer hauls the product of his hard work to the shipping station and "lets go"; he "takes a chance."

Scarcely a season passes without a public outburst of condemnation of the

middleman; his name has been synonymous with the "increase in the cost of living." We have heard and read a lot during the past few years about marketing direct from "producer to consumer" and the elimination of the middleman. This may be desirable, but it is not practical. The middlemen are the distributors, and whether or not we are satisfied with their methods of distribution and the toll they exact, we must have distributors. If it were possible and desirable to eliminate the army of distributors now employed in marketing tender fruits, others would have to be substituted. To market tender fruits, we must have distributors, and the bigger the army of distributors the wider will be the distribution, greater will be the consumption, and better will be the returns to the grower or shipper.

The fruit grower or shipper cannot do without the distributors; they are essential; therefore it should be the business of the fruit growers and shippers or their representatives to keep in close touch with the distributors. In order to emphasize this fact, a brief review of the methods employed by an Old Country tea firm, some years ago, might be of value. This firm sold package teas, and in order to add "distinction" to their goods, confined their sales to one or two stores in each city, stores which catered to what is termed the "high class trade." Finally realizing that to limit the number of distributors was to limit the sale of their goods, they changed their method and placed the distribution of their goods in the hands of the wholesalers, fixing the minimum quantity of sale to one case. The result was a tremendous increase in sales, but they were still limited, owing to the minimum quantity of one case being too great for a large portion of small distributors. These restrictions were removed, with the result that there is scarcely a store, big or small, who are not selling this firm's goods to-day, and the total sales have been tremendously increased.

Other Agencies Used.

The producer or manufacturer, in many cases such as this, does not depend entirely on the efforts of the wholesaler to sell to the retailer. They have their own representatives constantly going the rounds of the retailers, talking up and soliciting orders for their goods which they turn over to the wholesaler. The producer or manufacturer does not depend entirely on the retailer's efforts to sell to the consumer; he makes use of advertising mediums of various kinds to create the demand. In this way the producer or manufacturer has absolute control of his product from production to consumer through the established trade channels. He first creates the demand



An idea of the character of the spray, driven by this "dusting" machine in the orchard of W. H. Gibson, Newcastle, Ont., may here be obtained. (Photo by R. S. Duncan.)



Four acres of raspberries on the fruit farm of F. Bell & Sons, Burlington, Ont.

for his goods, establishes the price at which the goods must be sold by the wholesaler to the retailer, and by the retailer to the consumer, and never fails to protect the interests of all distributors who handle their product.

Now, this may sound like a "combine," but it is not. It is a method whereby the interests of the consumer, the producer, and the distributor are protected. The fixed price to the consumer is based on the cost of production; the manufacturers and distributors are assured a fair margin of profit, and the speculative or gambling element has been removed.

Although this method of control of sale of staple products has been employed in a measure to market citrus fruits, it would be a much more difficult matter to market the tender fruits of Ontario in the same way. To fix the price to the consumer would be practically an impossibility.

If, then, we must make use of the already established trade channels for the distribution of our fruit, what are we as fruit growers doing to enlist the hearty, sympathetic co-operation of the distributors? What are we doing to encourage the distributor to increase his sales of fruit?

It is not encouraging to the distributor, who buys crates of strawberries, to find that the bottom rows contain boxes which are only half filled with green or over-ripe berries, or it is necessary for him to use the contents of six boxes in each crate to fill the remaining eighteen boxes, in order to make them saleable.

It is not encouraging to the distributor to find that the baskets of peaches, tomatoes or apples he bought had but one good layer of fruit, and that on the top.

It is not encouraging to the distributor to find that what he purchased

for Green Gages were immature green Lombards.

It is not encouraging to the distributor or the consumer to find that the baskets of grapes they bought were immature and practically worthless. Many such were marketed last season.

It is not encouraging to the distributor to find that the car of fruit which he purchased f.o.b. must compete with one or more cars which the same shipper from whom he bought consigned (without control) to his competitor.

It is not encouraging to the wholesale distributor to find, after he has bought and received a car of fruit, that the same shipper has sold to the retail distributor in his own district.

These are not rare occurrences, and although the percentage of the whole marketed in this way may not be very great, nevertheless the quantity is sufficient to stamp the business as unreliable.

Has the distributor been exacting an excessive toll from the tender fruit grower? Our present unorganized methods of marketing make it possible.

Has the tender fruit grower been contributing to the cost of marketing some manufacturer's staple product? If it costs the distributor 17% to 19% to do business, and if he is selling some staple commodities at an advance of 10%, the difference must be made up on other commodities if the distributor is going to continue business. Do not our fruit-marketing methods make this possible?

How can these difficulties be overcome? I suppose that if "cooperation" was not here mentioned, one would think the writer had missed the mark, but the term "cooperative" has been used to describe so many different

methods of operations that to-day it is hardly recognizable in its true sense.

We may call it cooperation, amalgamation, joint stock company, a reciprocal marketing organization, but by whatever name it may be called it means that fruit growers must be organized at least to the extent of centralizing and controlling the consigned shipments of tender fruits. Just as long as the shipper indiscriminately consigns his fruit, just so long will we have "glutted" and "overstocked" markets, with unsatisfactory returns.

To some of the shippers, no doubt, the problem of marketing tender fruit has been solved, but they are a very small percentage of the whole. To the great majority, the marketing problem is one in which they are very keenly interested. To overcome the several difficulties now attendant on our present marketing methods would be an individual impossibility; the cost to the individual grower or shipper would be prohibitive and out of all proportion to the value of his crop. When growers and shippers more fully realize what it means to control their product from point of production to consumer through the already established trade channels, eliminating the unnecessary middlemen, then our present methods of indiscriminate consigning and marketing will be done away with.

Seasonable Reminders

Trees which grow late in the summer and have not thoroughly ripened wood are very liable to be injured by winter, particularly in parts of Canada where the season is relatively short. It is important, therefore, to stop cultivation as early as possible without danger of the fruit suffering from drought. The time of stopping cultivation will vary from the latter part of June in places having the shortest summers to the middle of July where seasons are long. It is desirable for many reasons, as soon as cultivation ceases, to sow seed for a cover crop, and among the best plants for this purpose are the clovers and vetches, although rape, millet, buckwheat, and other plants all have their value.

Vegetables.

As soon as the cutting season is over, the asparagus bed should receive a good top dressing of barnyard manure. Do not wait until autumn, as an application then will not benefit the next year's crop. Keep the celery plants well covered with bordeaux mixture to prevent the plants becoming diseased. Save as much of your own vegetable seed as possible. Good seed may be scarce in 1917.

If the summer is wet, favoring the development of apple scab, spraying with lime sulphur or bordeaux mixture will be found desirable as, sometimes, a crop which promised to be clean in the early part of the summer, will, unless sprayed, be badly scabbed before harvesting time.

Potatoes.

The potato crop often is very much neglected in Canada. By the middle of summer the tops are badly eaten by bugs, and what foliage is left is hidden by weeds. Large crops will not be obtained under conditions like these. If the soil is kept as moist as possible by

thorough cultivation, the tops kept in condition by spraying for the potato beetle and late blight, the grower will be well rewarded for his pains by the much larger crop he will get, unless the season is very unfavorable. The greatest development of tubers takes place when the ground is moist. If the plants can be brought through the month of August without being badly injured, the crop will increase rapidly in the cooler and moister month of September. It was shown in an experiment that there was an increase at the rate of 119 bushels marketable potatoes per acre during the month of September.

Culture of Small Fruits

W. T. Macoun, Dominion Horticulturist, Ottawa

THE care the strawberry plantation receives during the growing season determines to a large extent the kind of crop there will be next season. The more runners that can be placed with hand and trowel, so that the plants will root quickly and be evenly spaced, the better. Very often there are too many plants in one place and not enough in another. Where plants are crowded and much less than six inches apart, the crowns do not develop well and the fruit is liable to be small. It is important to keep the plantation free of weeds and the ground cultivated as long as possible, as late growth, in the case of strawberries, will result in better plants.

Bush Fruits.

Often there is far too much wood left on the bushes of raspberries, currants,

and gooseberries for best results. Attention is drawn to this now, as pruning of these can be done, if desired, as soon as the fruiting season is over. Raspberry canes should not be left closer than six inches apart, the dead and weaker ones being removed and the strongest left. Where canes are not covered with soil in winter, the thinning out may be left until spring, when one can tell, before pruning, which canes, if any, have been injured by winter. Bending down the canes and covering the tips with soil, or, where there is little snow, covering the plant entirely, will ensure the canes wintering well.

Gooseberries are difficult to pick at any time, but if the bushes are kept well pruned, picking will be much easier than if there are many branches.

Branches older than three years should be cut out. The best fruit is borne on the two- and three-year-old wood, but there should be a few strong new shoots, well distributed, allowed to remain each year. About six fruiting branches with their side shoots will be sufficient. Red currants are pruned somewhat as gooseberries, but a few more fruiting canes may be left. Unlike the red currant, the fruit of black currants is born on the wood made this year, hence severe pruning of the older wood is desirable to ensure strong new wood each year.

Bees Not Injurious to Fruit

A committee appointed in Italy to study if bees are injurious to fruit has reported. The report states that bees, from their instincts, the conformation, function and movements of their mandibles, as well as from the shape and consistency of the other mouthparts, cannot perforate the skin of fruit, and it is only incidentally that they lick and suck the juice exuding from fruits which have been injured by other natural causes.

The injuries to orchards and vineyards sometimes attributed to bees are due to poultry, wild birds, wind and hail, and most frequently to hornets, wasps, vine-moths, and other insects. The destruction of hornets and wasps is recommended; it is easily effected, because their nests can be found without difficulty.

Bees do not injure grapes or other fruit even indirectly; on the contrary, they are beneficial to them, either by bringing about the cross-pollination of the flowers, and hence the setting of the fruit, or by promoting the dessication of damaged fruits from which they absorb the juice and pulp, thus preventing fermentation and rot extending to sound individuals (this is especially the case with grapes).

The orchards and vineyards frequented by bees give the most constant crops; the hive is a very useful, and sometimes a necessary addition to the orchard.

In the interests of public economy, agriculturists are strongly advised no longer to entertain any suspicion as to the harmfulness of bees, and, wherever possible, to associate apiculture and agricultural enterprise.

It is hoped that in the event of any changes being made in existing agricultural legislation, the statement—already implicitly made—of the inoffensiveness of bees, will be set forth in formal terms, and that the State will encourage the development of apiculture.



Indian girls are used by a number of the fruit growers in the Niagara District as berry pickers. They pick into small baskets which are fastened to them in front by their aprons. The carrier is shown on the ground.



Among the annuals in the garden of Mrs. D. L. MacLaurin, Ottawa, Ont. In the background may be seen a pergola which the vines have not had time to cover.

Have a Pergola in Your Garden

A. V. Main, Ottawa

ONE of the most delightful parts of many a garden is the pergola or arbor, or what is often called in the old land the summer house. The pergola, of course, is the popular name. It differs somewhat from the arbor or summer clad house of olden times, inasmuch as they form a continuous archway covered by a variety of climbers which make a leafy canopy and a cosy retreat for rest and quietude.

Some pergolas are anything but decorative. Before building one it is well to obtain the advice of a practical gardener as to its construction, for the contractor or builder has no conception or interest in the after results. See that it has a reasonable height and width, so that you will not have to stoop when using it. If connected with the house like a conservatory, more time is apt to be spent in them. As the Americans say, we don't live enough in our gardens. Many pergolas are erected by handy amateurs to suit their own space, and at a cost of but a few dollars for lumber. In large grounds they should be of a more expensive nature.

The Pergola.

The success of a pergola depends on our ability to clothe it well with a variety of climbers. No matter how lavishly the structure is built its beauty is barren without its mantle of foliage. A sunny aspect, therefore, is best, for a cool, sunless place is practically useless for climbers, and anything but a healthy resting place.

Perennial borders are a valuable addition to the sides of the pergola. Use such flowers as heleniums, delphiniums, asters and Japanese lilies. The king of climbers with us is the climbing rose

"Tausendschon," now in its fifth year. At present it is a mass of bloom. It completely covers the pillars, and for a lasting quality, either cut or on the plant, is unsurpassed in climbing roses.

Several varieties of clematis are excellent subjects, also aristilochia, bitter-sweet, grape vines, and bignonia radicans. Some of the annual climbers are good gap fillers, such as canary creeper, nasturtiums and cobea. Cultivated grape vines make a good covering for overhead, and stand the winter well without our having to take them down every fall. The wild grape vine is another.

Aim to have some permanent climber overhead, such as those named, that will bud out in May. Keep the pillars and sides for your roses, clematis and climbers that require winter protection. This is a good time to locate the position, and to make your plans for a pergola, so that you may put them into effect in the fall. Pergolas can be built in instalments, one archway at a time. In the small garden archways distributed over the pathways at different places provide room for a variety of plants and present a beautiful effect.

"My lawn mower is so dull it won't cut anything," said Mr. Crosslots.

"Never mind," replied the nervous neighbor. "You keep running it late at night and early in the morning, as usual, and pretty soon the grass will curl up and die for lack of sleep."

The iris is a rapid growing and very prolific flowering plant that should be grown more than it is. It multiplies very rapidly when set in good soil.

Sending Roses by Post

Few gifts give more pleasure than a box of fresh cut roses sent through the mail. The effect, however, is somewhat spoiled if the roses arrive injured and bruised. Roses intended for sending some distance are best packed in a shallow wooden box deep enough to allow for two layers of flowers. If the wood is very dry moisten it a little; then line the box with soft paper, not cottonwool, and lay each rose in firmly against its fellow. A clean sheet of paper should be placed between the two layers of blooms, and another on the top before closing down. Any space may be filled in with newspaper screwed up roughly, but pressed fairly firm into the vacancy.

The flowers should be cut on good long stems—six inches is not too long—and they should be cut as young and as solid as possible, and stood in water up to their necks for a time before being packed. They will still be developing inside, although placed close together. On arrival they should be freshly cut at the base and allowed to float in a bucket of water, when they will soon freshen up.

Fighting the Insects

The method of fighting garden pests by means of a paris green mixture applied through a watering can is giving way in many gardens to the use of an inexpensive knapsack sprayer which is much more convenient and effective. The spraying material and the water are placed in a small barrel or tank, upon which a pump is attached, and by merely raising and lowering the handle the mixture is mechanically agitated and simultaneously forced through the nozzles in a vapor-like mist. The use of a knapsack sprayer effects an economy in the material used as the mixture is not merely allowed to fall on the foliage and blossoms, but is driven into the innermost leaves with a precision that tends to ensure a reliable job. The work is completed so effectively and thoroughly that the plants do receive benefit even if rain falls soon after the actual spraying.



A Knapsack Sprayer in Use.

Cultivating, Watering and Succession for the Home Garden

Geo. Baldwin, F.R.H.S., Toronto, Ont.

AS the early sowings of flowers come into bloom, provide for their succession by the sowing of all annual flowers early this month, and thus have a garden full of life when your neighbour's is possibly on the down grade. Keep the faded flowers picked off as soon as the petals fall. This prevents seed formation, and thus gives vigor and longer life to the blooming period. Cultivate as freely and as often as circumstances will permit.

Last month we told you that it was not too late to make a garden, if you had just moved into a new home. Don't be shocked when we tell you that the first week in July is not too late, for if there is anything that The Canadian Horticulturist has constantly insisted on, it is the keeping up of interest in gardening, by succession, late planting, cultivating, and watering. You have often been out for a walk either on business or pleasure, on a sweltering hot July day. How glad you were to get back into a shady nook in the garden and have a nice ice-cold drink of water! How it refreshed and put new life into you! You also know what a thorough soaking of cold water means to the garden, also, what stirring the soil means, making the beds loose, airy, and congenial. Think of this during the very hot weather.

Did you carry out the directions of last month for spraying rose bushes? Give them a final spraying early this month with one pound of arsenate of

lead to ten gallons of water. Every bug you kill in the freshness of its youth, means several hundred less eggs next year. Don't neglect the lawn because it looks fairly well, but repair any holes which may appear. Dig up these spots, scatter fresh seed and keep the earth moist.

The house plants which you plunged into the border should now be taken up, repotted, and made ready for the house again in August. Don't forget the necessary evil, the weeds. Keep right after them. To do so means more than mere neatness, they are blessings in disguise, forcing as they do, cultivation. Remember, also, that if weeds do not thrive, nothing else will.

What a Garden Does.

Ours is a free country. No one can appreciate this better than the man or woman who has a well kept garden. There is a degree of independence connected with the possession of a garden that keeps us from running to the florist for flowers, to the grocery store and pedlars for so called fresh (?) vegetables, and to fruit stores for luscious fruits. Who, therefore, would not have a flower border, a strawberry and asparagus patch and a kitchen garden with a few dwarf or trailing fruit trees intermingled? It cuts the meat bill in two, and dispenses with the doctor most of the time, for, having a good garden you do not lack for appetite, amusement, excitement, and fascinating entertainment. A garden transforms a

house into a home, and, above all, the nearer you get to nature, the nearer you get to the Great Gardener of the Universe.

In July, gardens should be at their zenith of productiveness. Is yours? Keep the succession mania constantly before you, that you may have a continuity of crops of all kinds. See that your garden is as successful as you anticipated in the early spring. In going into the vegetable garden, "cultivation" is the slogan. Water them as often as you can. Apply a little nitrate of soda occasionally, lime on cabbages, melons and cucumbers, arsenate of lead for tomatoes, egg plants, and potatoes, hellebore on others that need it. This will disappoint the bugs.

The cutting of asparagus should be finished. Do not forget the plants. A bed five feet by twenty feet is benefited by four pounds of salt, to one pound of nitrate of soda. Use hellebore for asparagus beetle.

The successful cultivator of strawberries must not delay in getting a well rooted stock of young plants before the old plants are done fruiting. This will not damage the old plants, and will give you the best stock for a new bed which will develop into fine specimens for the following fruiting season, and thus save a year's time.

The following is a list of vegetables you can plant now: beans, carrots, celery, corn, cress, cucumber, lettuce, onions, potatoes, turnips, beets, cabbage, cauliflower, chard, salads, peas,



A portion of the garden of Mr. R. B. Angus, of Montreal, at his summer residence at Ste. Anne de Bellevue, Que.



These lake shore gardens in Haileybury, Ont., demonstrate how nicely flowers will bloom in New Ontario in spite of the short season.

spinach, and herbs. What more do you want? Take more care in transplanting than earlier in the season. The one crop to be given most attention now is celery. With a view to succession, keep the early celery well watered, cultivated, hilled up as it grows, and feeding with liquid manure with a teaspoonful of nitrate of soda to a pail full once a week. Do not let soil get into the heart. Use Bordeaux mixture for blight, and set out fresh plants as fast as room can be found for them. Onions being shallow rooted need lots of water and feeding.

Trim the Tomatoes.

Keep the tomatoes well trimmed of laterals. Do not let the plants have extremes as to moisture at roots, as this causes black rot. I have formed theories on the subject of tomatoes for years, and the varieties that have stood the final tests with me, are Chalk's Early Jewel, which matures a little later than Earliana, but makes up for it in productiveness, smoothness and quality, and is to my mind the ideal scarlet variety for the home garden. It is fine for slicing. Earliana is the earliest to ripen and takes second place to Chalks for its meaty and acid qualities. Next comes Livingston's Coreless. Though not so well known it will eventually become, I feel, the leader on account of two distinct characteristics, namely, it does well in partially shady locations. This is a good feature for the home or city back garden, where partial shade predominates, owing to high board fences and neighbour's trees. Secondly, it is as round as a baseball, and, consequently, there is no waste in slicing. It has a good smooth skin, beautiful color and fine flavor. Some gardeners prefer size to quality, and, consequently, go in for Ponderosa and Beefsteak, two varieties which are large, ugly, indented at stem, and do not rank with others in quality.

Of the pink varieties of tomatoes Beauty seems to suit the Toronto district well. It is very handsome in appearance, has a mild flavor, and is also good for slicing. June Pink runs it a good second. It is a trifle earlier, ripens quickly, but is not so meaty, and will not slice so handily. These five varieties will fill the requirements of any home garden, with the possible exception of adding the small fruited varieties used principally for the dinner pail and picnic baskets.

Cauliflower is the most highly appreciated and most delicately flavored of all the cabbage family. It is generally regarded, erroneously, as being the most difficult to grow, although the truth is that providing the soil and climatic conditions are favorable it can be grown easily. I have grown cauliflower in my city backyard garden, equal to any displayed for sale in shop windows. It requires a cool corner, a rich, loamy, retentive soil, with much humus, must be grown quickly, and is a lover of moisture. Some people will say this is easier said than done, but not so. Get the seed in early, transplant carefully into a rich soil, and by frequent attention, have good, strong plants when planting out time comes. Another drawback to quality is the proper handling in bleaching by covering the heads with their own leaves. The best variety for the home garden is the early dwarf Erfurt or Snowball.

The Compost Heap

Choose a spot for your compost heap where material may be added to it from time to time and where rain will not drain away too much of the fertilizing value. It is a good plan to sow the heap over with cow peas, oats, sow beans, clover or some other green crop and when the growth is eight or ten inches high fork it into the heap. This

keeps it from becoming too dry.

Small heaps, containing about a wagon load of compost may be made with the material mentioned above with the addition of fifty pounds of bone meal, fifty pounds of ground phosphate rock, fifty pounds of hydrated lime and ten pounds of nitrate of soda. This makes a compost exceedingly rich in fertilizing elements, but is rather expensive for ordinary garden use.

Summer Care of Roses

Dorothy Perkins

THE rosarian's path is not thornless. One has to contend with dry, hot seasons, cold, wet seasons, and the numerous little insects which seem prone to worry the rose, and drive the grower to distraction, unless every precaution is taken. Keep the soil around the rose bushes well hoed in hot weather, so that the moisture and air will permeate to the roots. Liquid manure, made by placing a couple of pecks of manure in a rain barrel filled with water, should not be used after the real hot weather has arrived. Allow about one gallon of the liquid diluted with more water until straw coloured, to each bush, and apply after a rain. This is an excellent nourishment for roses, especially for those grown for show purposes.

As soon as the new leaves appear commence spraying for aphids. How they love to form in one grand procession on the new shoots, sucking the sap and closing the pores. Over night they feast on the leaves, and in the morning one is liable to find only the skeleton of the leaf. Fine hose spraying is often suggested, but it is really almost useless, it only washes off the little flies, and they make their way to another bush. Buy a small bottle of nicotine, follow the directions and spray, spray until both arms ache, then commandeer the family's arms and continue operations. Spray under the leaves and on top of the leaves, but never on the rose itself. Whale oil soap is less expensive, but not so effective.

Mildew on the bushes is often caused by poor drainage, so don't forget the porous bottom in the rose bed. The first indication of mildew is a grayish-white dust, like powder, resting on the bush. In a day or so the leaves curl up, and the buds become large, but refuse to open, and have a blistery appearance. As soon as the disease is discovered, dust the whole bush with ordinary household sulphur. If this is ineffective spray with Abol, which can be purchased at any seed house.

These two diseases are most common to roses, but with precaution, early in the season, can be overcome. If you are not successful in checking the mildew throw the bush away.

Honey From Blueberries

F. W. L. Sladen, Ottawa, Apiarist, Dominion Experimental Farms

IN continuance of the work of investigating the principal sources of honey in Canada undertaken by the Bee Division of the Dominion Experimental Farms, two colonies of bees in 10-frame hives were taken on May 18th from the Central Experimental Farm, Ottawa, to the spot on the sandy plain at Kazabazua, Que., forty miles north of Ottawa, which had been used as an out-apiary in former summers, in order to discover the value of the blueberries that grow in abundance on this plain. About thirty years ago a pine forest stood on this plain, and there is a small amount of humus on the sand in which blueberries, sweet-fern (*Myrica asperifolia*) and certain species of golden-rod, rich in nectar, flourish in abundance. The vegetation is occasionally destroyed by fire.

The most abundant species of blueberry growing on the Kazabazua plain is the low sweet blueberry or early sweet blueberry (*Vaccinium pennsylvanicum* Lam.). This species has bright green leaves, serrulate on the edge and smooth and shining on both sides. Less abundant and occurring principally in the richer or moister parts of the plain is the only other clearly distinct species of low blueberry that is widely distributed in Canada, namely, the sour-top or velvet-leaved blueberry (*Vaccinium canadense* Kalm.), easily distinguished by its leaves being entire on the edge and downy on both sides. At the time the bees were brought up the first flowers of both species were opening. The apiary was visited again on June 6th, when it was found that each colony had filled up the brood chamber and

also three parts of a shallow super with honey and brood, although several of the intervening days had been rainy. Some of the flowers of *Vaccinium pennsylvanicum* had dropped by this date. The *Vaccinium canadense* was still in full bloom.

The blueberry flower is one that secretes a large amount of nectar which is not entirely accessible to the bee on account of the depth of the corolla and narrowness of its opening. An examination of several of the flowers of both species on May 18th, May 22nd and June 6th showed that they contained abundant nectar, and that *canadense* had the corolla somewhat shorter (length inside $4\frac{1}{2}$ to 6mm.) and wider at the mouth (4 to $4\frac{1}{2}$ mm.) than *pennsylvanicum* (length inside 5 to $7\frac{1}{2}$ mm., width at mouth $3\frac{1}{2}$ to 4 mm.), and, therefore, its nectar is more easily reached by the bees. As this species (*Vaccinium canadense*) also flowers later and the flowers appear to contain rather more nectar, it is evidently a more valuable plant for bees than *pennsylvanicum* where both occur in equal quantities.

Character of Honey.

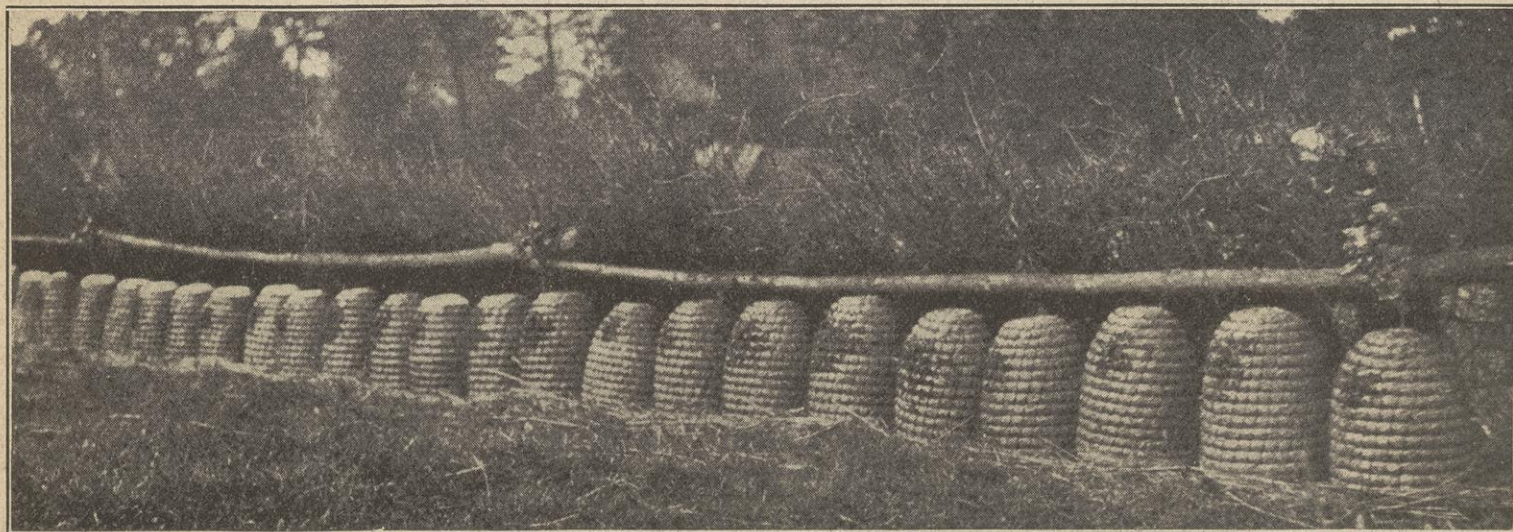
Thirteen pounds of honey gathered between May 18th and June 6th were extracted on June 8th. The honey was of an amber colour, fairly dense consistency, and had a distinct and pleasantly mild aroma and flavour, making it a honey that consumers would soon learn to distinguish and ask for if regular supplies could be obtained.

The conclusion was reached that blueberry ranks as a valuable source of food for the raising of bees during

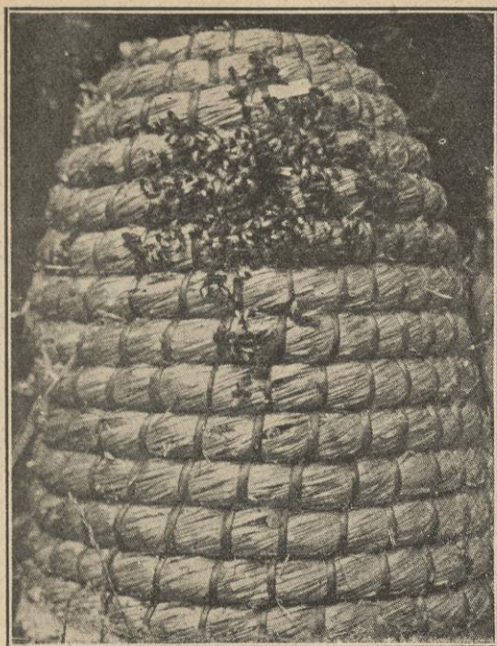
about three weeks in spring, commencing during dandelion bloom and continuing for some time after it. This would be true even where it is only moderately plentiful. As a source of surplus honey its value may be likened to that of dandelion. Strong colonies could store a good deal of surplus from it where plentiful if the weather conditions were favourable, but its earliness and the comparatively short period of its yield render blueberry honey unlikely to become an important commercial product.

In the Maritime Provinces the flowering period of the blueberry may be expected to be somewhat longer than in the Ottawa district and, consequently, here it may be of greater value. It grows in fair quantity within range of the bees kept at two of the Branch Farms, Kentville, N.S., and Nappan, N.S., and has been mentioned as a source of early honey in reports from the last named farm.

My first acquaintance with European foul brood began about seventeen years ago, when I found that my four apiaries were infected with that dreaded scourge by people moving into my territory, because their bees had not done well, and they hoped by so doing to share in my prosperity. Watchfulness and having nearly all Italian or hybrid bees prevented the extermination of many colonies, but it was necessary to render a great amount of combs. This wax was made into brood foundation and again given to the bees. I never knew of a case of reinfection by so doing.—Chas. Stewart, Albany, N.Y.



This illustration was sent The Canadian Horticulturist and Beekeeper by one of our subscribers in Holland, Mr. P. Balk, of Incker, Oosterleek, Netherlands. This style of hive is used in Holland extensively. They are here shown as exposed in the famous bee-market at Veenendaal, which is held once a year in July. They are placed on a layer of rye straw. Note the shelter of brushes at the back.



A nearer view of a Holland strawskep. The bees are crawling and fighting around the entrance which it will be noted is somewhat high. There are lively times on market day when these skeps are sold.

Beekeeping in Holland

THE interesting illustrations of bee-keeping methods in Holland that appear in this issue were sent to The Canadian Horticulturist and Beekeeper by one of our subscribers in that country, Mr. P. Balk, of Imker, Oosterleek. At the time the illustrations were forwarded Mr. Balk sent us an interesting letter.

"The long rows of hives," writes Mr. Balk, "shows them as they are placed for sale on the market at Veenendaal. From two to three thousand swarms are sent to Veenendaal every year and sold for from \$1.00 to \$2.00 each. These swarms are taken to the buckwheat fields and after that to the heather fields. The heather begins to bloom usually during the first part of August and continues in bloom until the end of September. If the weather is favorable and the skeps are heavy or 'fat,' as our old 'skeppists' say, then the bees are drummed off and the skeps, heavy with combs of heather honey, are sold to the factories where the combs are cut out of the straw hives and the honey pressed out of the combs and the wax later melted. The empty skeps go back to the beekeepers. The hives shown in the illustration all contain new swarms. This world renowned market is only held once a year and always at Veenendaal in the beginning of July. No one seems to know how old the bee market at Veenendaal is. It is said to have been held for 300 years or more.

"Our soldiers a few months ago had to fight an enemy in the form of water. As you may perhaps have read at the

time a large part of our province, North Holland, suffered from heavy floods, caused by breaks in the dykes. The section where I live, fortunately, is dry, but we came within an inch of being drowned during a hurricane. Had the hurricane lasted an hour more we would have been drowned in the midst of the night. Following the hurricane we had another storm and a high tide which caused breaks in some of the smaller inner dykes. The buildings in the drowned districts which escaped destruction from the wind were destroyed by the wild waves which were as high

as those on the North Sea and broke them to pieces.

"The war is making goods in Holland high priced. Bicycle tires are becoming scarce. Every farmer here has a bicycle. Taxes are high for the upkeep of the army. Where last year we were able to care for the Belgian refugees, we this year have had our own refugees from the inundated districts to care for. In some buildings at Amsterdam might be seen Belgian war refugees and Dutch flood refugees living happily together.

The Experiences of a Farmer-Beekeeper

THE number of bee-keeping specialists, that is, men and women, who devote their whole time to the industry, is limited. It would mean much to Ontario in quantity and quality of product if the industry was carried on entirely by men who have a thorough knowledge of apiculture. It is partly due to the carelessness of the out-of-date beekeeper that disease has gained such headway, that there is such a high percentage of losses by improper wintering and lack of swarm control, and that the market for good honey is damaged by the selling of an ungraded, unripened article to the public. Whether justly or not, the farmer beekeeper comes in for a good share of the blame for these conditions. A few experiences of one of this class may prove of some benefit to those who merely consider beekeeping as a side line of general farming, and have only a limited amount of time to devote to it. The expert may as well stop here, as what follows will not be of much interest to him.

Honey being greatly relished in our home, we decided to buy a couple of colonies of bees in order to have all we needed. We were told that it required little knowledge and practically no work to manage them. They worked seven days a week, the crop was easily gathered, they provided their own stores for winter, and everything was clear sailing.

Our first purchase consisted of two colonies of blacks in old box hives, as old as Noah's Ark, which were packed in sawdust in a rough outer box. The owner explained his method of management which was anything but scientific. He also presented us with a couple of old boxes "that would do for a time on a pinch," and a few supers containing some old home-made frames, veritable relics. One colony died before spring. The other came out strong and cast one swarm. These supplied quite an amount of good honey which was consumed in the good old-fashioned way, combs and all. After

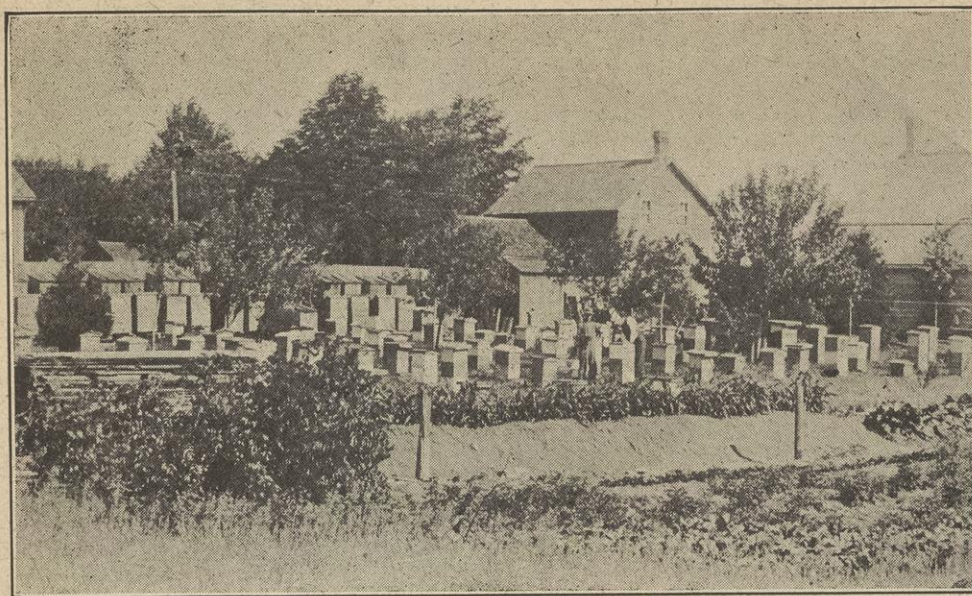
reading a book on apiculture and some bee journals, I decided to try some different methods of management and to spend a little more time in an endeavor to build up a good apiary.

The original owner had always left his colonies packed all summer, merely removing enough packing to put on a super. My first problem was to transfer the bees to Langstroth hives. I took the colonies out of their outer boxes, and one fine afternoon, when no one was home, I overhauled one. After a lot of work I got it into a movable frame hive. I was disgusted with the job as everything was smeared with honey and a large part of the brood destroyed.

The next time I tried to transfer the bees to other hives I employed a better plan, and one that can be recommended to any one. Place a Langstroth super (or any other that may be preferred) filled with frames having full sheets of foundation on top of the old



Two Holland beekeepers exposing the thousands of bees in their skeps with natural built comb. No foundation is used.



A scene in the apiary of the late David Chalmers, Poole, Ontario.

box hive. Be sure that there is an opening large enough for the queen to get up. In a week or two, if the colony is strong, the bees will have the foundation drawn out and brood rearing started. On a fine day lift off the top story, place it on a bottom board, remove the old box hive and put the super on its stand. With a crowbar or cold chisel pry off the bottom of the old box, set the box on top of the super, and smoke the bees down. This is to make sure that the queen is hunted below in to the new hive.

The old box will contain a large quantity of brood which must not be wasted. Fasten the bottom of the box hive again, pull the new hive back a few inches on its bottom board, slip in a piece of queen excluder to cover this opening, and set the old brood nest directly behind the new hive. Arrange a passage between the two hives so that the bees can go back and forward at will. The queen excluder will prevent the queen from returning to the old brood nest. As the young bees hatch they will "feed" forward into the new hive; and in a week or two the old one can be removed and the combs melted for wax. By this plan the colony suffers no set back, and the operator escapes a disagreeable task.

Hearing that foul brood was prevalent in the county, I decided to Italianize. I got all the information I could from bee papers and books and ordered a number of queens. I intended to introduce them by the old cage method. When the new ones arrived, I started to look for the black queens. After hunting through each colony several times without finding any, I gave the Italian queens to nuclei which I prepared, intending to unite the nuclei and the others later. I was advised to try the following plan for finding the

black queens: Remove the brood chamber, place a super containing some empty combs in its place, and cover with a queen excluder. On top of this put an empty super and shake each frame from the brood chamber onto the queen excluder. By careful watching the queen can be found trying to get down below. I got rid of the blacks after a time. Unfortunately a few colonies of hybrids, caused by crossing the races, got into the apiary, and have been a source of annoyance ever since. C. B. L., Peterboro Co.

Apiary of the Late David Chalmers

J. W. Hendrich, Baden, Ont.

By the older readers of the Canadian Bee Journal the late Mr. David Chalmers, of Poole, Ont., will be more or less intimately remembered. Mr. Chalmers was for many years apiarian inspector for the Counties of Perth, Waterloo and Huron and a frequent contributor to the Canadian Bee Journal. As a close student of apiculture visitors to his apiary found him most courteous in sharing with them the benefits of his experiments.

The accompanying illustrations were taken by the writer a year or two before his death. They show a part of his apiary in the rear of his dwelling, comprising about 100 colonies. Mr. Chalmers will be noticed in the act of hiving a swarm and also taking off a super with the assistance of his son.

Mrs. Chalmers preceded him in death several years ago, and following his death his children moved west. The bees were sold by public auction, and I believe to-day not a single colony remains in this old-time apiary familiarly known as Beevilla.

Average Returns in B.C.

THE British Columbia Department of Agriculture announces through its Agricultural Journal that the season of 1915, from a beekeeping standpoint, was the worst that British Columbia has seen in thirty years. It is hoped, therefore, that 1916 will be at least an average.

An average yield of twenty-three pounds to a colony all over the province was secured. When it is remembered that many of the beekeepers were practically beginners, this yield is considered encouraging for the worst season known. At the prices ruling in the province for local sales, and most of the honey is sold to neighbors, it meant an average income of \$4 per hive. In honey regions professional beekeepers often consider the season good when the income averages five dollars from a hive. Such figures indicate that British Columbia, both in average crop and in price, is favored, and that it is really worth while for the beekeepers to put brains into their business.

Our long springs have enabled the inspectors to formulate a system of management that calls for less labor than is necessary in other regions where the building-up season is short. In fact, now that we know the worst about beekeeping in British Columbia, there is reason for all to be optimistic.

Inspectors Harris and Sheppard will work their districts this year as usual. Mr. Todd, instead of holding demonstrations for the first six weeks of the season as in past years, has conducted inspection-work in the foul-brood regions of his district. At the urgent request of many beekeepers who want to see the details of a season's work he every Saturday afternoon at 2.30 gives demonstrations at the Sugden Apiary, Lynn Valley, North Vancouver, where he has the management of two dozen colonies.

The colonies of this apiary were packed for the winter according to a system described by the Department of Agriculture in Bulletin 30. From September 1st until the end of February they were absolutely uncared for, and for several weeks were buried under three feet of snow. When the thaw came not a single bee left the hives until all the snow was gone. A brief examination at that date showed every colony so packed to be not only alive, but strong and with plenty of stores.

Question Box

Would combs from a foul brood colony do to use again in supers?

They should not be used by an amateur. Might be used by a practical bee-man.

The Summer Course in Beekeeping at the Guelph College

THE short course in apiculture at the Guelph Agricultural College, June 12-16 proved a success. The programme consisted of lectures and demonstrations in the classroom and in the apiary during the day, and an illustrated lecture every evening. Of late a great many requests for practical instruction have been made of the provincial apiarist. This summer course was planned to meet these demands. Wherever possible, the class went to the apiary and worked with the "live material"—actually handling the bees, noting their behavior under different methods of management, and seeing for themselves what is meant by swarming impulse, brood cluster and colony behavior.

From early correspondence a large attendance was expected, but weather conditions were so unfavorable, farming operations so backward, and help so scarce, that a great many were prevented from attending. The class of about twenty-five permitted much individual instruction that would have been impossible with larger numbers.

The first afternoon was devoted to an introduction to the main parts of the beekeeping industry. Mr. Morley Pettit, Provincial Apiarist, spoke of "Beekeeping as an Occupation." Like other occupations beekeeping has its advantages and disadvantages. There is a peculiar fascination about the mystery of the hive which leads to "bee fever." The work is mostly out-of-doors, where the surroundings are clean and healthful, and except in a few cases there is little heavy lifting. Compared with the investment, the returns are relatively high. The safety valve of the industry is the sting of the bee, which is very injurious to some people. As long as bees have stings he did not fear over-production. Beekeeping is a fascinating pursuit for those who like it. Very few beekeepers have acquired wealth, but many have made a comfortable living and prolonged life by this healthful occupation.

Mr. Jas. Armstrong, the veteran foul brood inspector and first vice-president of the Ontario Beekeepers' Association, gave a demonstration of handling bees. He gave instructions for opening hives, the use of the smoker, and precautions to avoid stinging. "I always want a good smoker," he said, "and I keep it well primed up when working with bees. Too much smoke is as bad as too little. When they sting always scratch the stinger out of the wound, and if serious results follow give ice cold applications, or put ammonia on the wound."

"The Organization and Life History of the Honey-Bee Colony," by Geo. F. Kingsmill, B.S.A., O. A. College, dealt with the cycle of the year. He showed the effect upon the queen of the nectar gathering, stimulating her to lay eggs. By the use of diagrams the population of the colony was shown to vary at different seasons. At the height of the honey season it should be at its strongest to gather the crop.

The evening lecture by Mr. Pettit illustrated by lantern slides the life history of the queen, worker and drone.

Tuesday's sessions were devoted to discussions on wintering. Mr. Pettit spoke of the "Requirements for Successful Wintering." The colony should be strong, composed chiefly of young bees with a quiet disposition and headed by a good young queen. Thirty-five to forty-five pounds of good, well-ripened honey or thick syrup of granulated sugar, besides some pollen, should be stored

in the combs. The hive should fit the size of the cluster and should be kept dry and well ventilated with the entrance never closed.

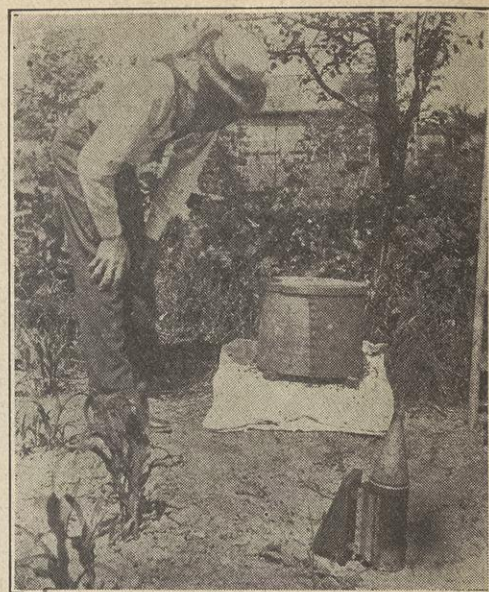
The "Feed for Bees in Fall and in Spring" was discussed by Mr. Kingsmill. He traced the different stages through which the nectar passed from the time the bee visited the flower till the honey was sealed over in the comb. The different methods of making syrup as well as the various styles of feeders were shown. Mr. Armstrong then took the class to the apiary and showed the packing of the hives on the summer stands. The quadruple wintering case, as well as the Krouse Case and the Brueckner Case, served to illustrate outdoor wintering.

Mr. F. W. Krouse, Guelph, president of the Ontario Beekeepers' Association, gave an interesting and instructive evening lecture on "Honey Sources of Ontario, and Selecting a Locality for Beekeeping." The early bee flowers provide nectar and pollen for rearing brood in the spring. Nearly all that is gathered before white clover comes and is used by the bees. Then comes the light honey from the clovers and later in the season the bees make dark honey from the buckwheat, golden rods, asters, etc.

Mr. Frank C. Pellett, Atlantic, Iowa, State Inspector of Apiaries and Associate Editor of the "American Bee Journal," was the principal speaker on Wednesday morning, having for his subject "Making a Start With Bees, Apiary Site, Buildings and Equipment." Local conditions will determine just how a beginner would secure the bees, but once secured they should be placed in the hive intended to be adopted. There is a great difference in the comparative ease with which beekeepers do their work, because of the arrangement of their apiaries, their appliances and their honey houses. Labor is the most expensive item in which the beekeepers invest. Efficiency in the apiary means more time to keep more bees or more time to devote to one's own leisure. In selecting a site for the apiary, natural shelter comes before convenience, as the size of the crop depends upon the strength of the colonies, which is largely due to the shelter and protection they receive from spring winds, etc. Shelter does not mean shade, although bees are benefited if protected from the intense noon-day sun. An open board fence serves to break the force of the wind, without causing the wind to whirl and drift.

The afternoon sessions were devoted to methods of queen rearing, introducing and swarm prevention. Mr. F. W. L. Sladen, Dominion Apiarist, Central Experimental Farm, Ottawa, went through the actual operations of queen rearing. Taking young worker larvae, he transferred them with a quill to a cell-cup and showed how the work was done. Then selecting a suitable colony, the cells were given to the bees to be cared for, later being removed to a nursery before placing in nuclei to hatch and mate. Mr. Pettit spoke about swarm control and pointed out the different colonies, showing the different stages of the method of control. The evening lecture was delivered by Mr. Pellett, on "Beekeeping in the Mississippi Valley." Many lantern slides were used to good advantage to show styles of packing, feeders, hive lifters, etc.

A great variety of subjects were included for Thursday's programme. "Making Artificial Increase," by Morley Pettit, drew forth



An interesting moment in the apiary of the late David Chalmers, Poole.

a lively discussion. A variety of methods were mentioned, the most desirable being left for the individual beekeeper to select. Mr. Armstrong reviewed the early spring management and spoke about "Supering and Taking off Honey for Extracting." He has used the double wire-cloth bee escape board for several years and considers it one of the handiest pieces of apiary equipment.

"Our Backdoor Neighbors," by Mr. Pellett, was an illustrated evening lecture, dealing particularly with economic importance of wild life, including birds, animals and insects. A life-time of personal observation of wild creatures in their natural haunts has supplied the inspiration as well as much of the material for this lecture.

A detailed discussion of both varieties of foul brood, illustrated by samples of diseased comb and demonstrated by treating a colony by the shaking treatment, was conducted by Mr. Armstrong at the last session on Friday afternoon. Those in attendance were greatly impressed by the actual practice of handling the bees. Not only were the lectures interesting and instructive, but impressive.—G. F. K.

Live Subjects Discussed

The spring meeting of the Halton and Peel Beekeepers' Association was held May 27th at Streetsville. Although not largely attended the members present were able to give reports of their own and their neighbors' yard conditions, with the result that a pretty accurate estimate of about 20 per cent. loss through starvation was reported for the two counties.

The question of the high price of sugar and its effect on the bee industry brought out the fact that sugar syrup could be bought by the barrel at 3c. per lb., to take the place of sugar at 8½c. per lb., but it was not thought advisable to use it for fall feeding for winter stores at all. It might be used for spring feeding to prevent starvation. Some advised keeping a number of frames of choice honey for winter stores while sugar is so high.

While discussing future honey prices it was pointed out to the members of the "Honey Crop Committee" who were present that the assurance of a bare honey market in Ontario; a tendency towards higher honey prices in the United States, the effect of dear sugar in the manufacture of jams

in factories, and for home use, and a loss of from 17 to 20 per cent. of bees in the province for honey production, should have the effect of strengthening the honey market in proportion to that of other commodities.

The fruit crop in this locality promises to be a bountiful one, especially apples, although as yet they are only in the blossom stage. Clover is abundant, and with right weather conditions should yield a good harvest to beekeepers who have strong colonies.

Officers all re-elected:—Jas. Elliott, president; Wm. Couse, vice-president; M. B. Trevenow, secretary.—M. B. T.

An Invitation from the States

Editor The Canadian Horticulturist and Beekeeper,—Probably you are aware that we are endeavoring to organize the beekeepers of the United Honey Producers' Association. It was the intention originally to include Canada, and all join in "Boosting" for higher prices and better markets. Owing to press of other matters the project of a joint association has been rather neglected up to this time. We are just now submitting memorandums to the Board of Control, asking them to select an appropriate device to be used for a trade mark.

The one most favored so far is the map of the United States, with an inscribed circle containing a device and wording. This is to be used if the organization is limited to the States. There seems to be quite a sentiment asking that the organization be broadened so as to include ALL North America. In that case, the map should so indicate it.

What do you Canadian people think of it? Do you want to "come in" and make it in fact, as well as in name, "The United Honey Producers of America"?

I am writing to a few of the Canadian beekeepers, and want their voice on it. Will you favor us with an answer in the near future?

Yours truly,

GEO. W. WILLIAMS, Sect. U.H.P.,
Redkey, Ill.

Value of Sweet Clover

While speaking at the annual meeting of the Lincoln and Welland Counties Beekeepers' Association, Mr. J. C. Clark, who is employed in farmers' institute work, said that as a result of his observation in parts of the province visited by him, on the value to the farmer of sweet clover, he was convinced that it was a valuable forage plant and of the greatest value as a renovator of soil. One thing that had impressed him particularly was that the men who were enthusiastic in praise of it were the ones who had had experience with it, and the ones who were knocking it were the men who had never tried it.

Mr. Jas. Armstrong, of Selkirk, cited the case of a neighbor of his who had refused \$900 for the seed from six acres of white sweet clover. The plant is a biennial and does not blossom the first year. His neighbor pastured it in 1914 and it made more green fodder than any known plant. In 1915 he cut a heavy crop of hay, being careful not to cut it below the first leaf, which would have killed it. In the fall he cut the clover with a binder, shocked it and refused \$900 for the seed on the six acres. Another neighbor who had three acres got equally good results. The wet season and the presence of several large apiaries (within flying distance) to fertilize the blossoms were important factors in the good results.

Successful Wintering

Editor The Canadian Horticulturist and Beekeeper,—I read, in the May number of your interesting journal, an article entitled "Conditions of Bees in Ontario," which stated that last winter's loss was 13% on 20,000 colonies. Possibly it will interest you to know that we did not lose one hive of the fifty-three we put in the cellar last fall. They are all strong colonies and abundantly provided with eggs; even the colony we left outdoors, as an experience, is fine and strong.

Last summer was an exceptionally good year for bees. In the spring we had but eighteen hives. During the summer we took out over 4,500 lbs. of honey, and we left to our fifty-three colonies a sufficient supply of stores to winter on.

Permit me to add that we have adopted the twelve frame hives, instead of the ten frame, because experience has shown us that with this style of hive, bees are less induced to swarm, and more honey is obtained.—La Maison Saint-Joseph, G. Duchanne, C.S.V., Director, Otterburne, Man.

Demonstrations Beneficial

The value of the demonstrations conducted by the Department of Agriculture of the Guelph Agricultural College, has been emphasized by the results obtained, especially in the eastern counties. Under the direction of Mr. Morley Pettit, of Guelph, a series of demonstrations have been held throughout the east for the past few years, and the result is that the business of beekeeping has been placed on a more scientific and hence more profitable basis. The black bees, which are so prone to succumb to the disease known as European Foul Brood, are rapidly disappearing. The best strains of Italian bees are replacing them, and this selection for hardiness is also tending to produce bigger crops. Hand in hand with this change the spread of knowledge and methods of beekeeping is being accomplished by means of these demonstrations. This year in the counties of Peterboro and Durham, for example, the Department Representative, Mr. Wm. A. Weir, of Toronto, visited Millbrook, Peterboro, Reaboro, Grasshill and Whitby, taking with him a special set of apiary appliances to illustrate practical work.

The average attendance at the demonstrations was very satisfactory, in spite of the peculiar conditions brought about by war and season. Most of the apiaries were in themselves especially interesting to visitors. Each presented phases of beekeeping which made it appeal to seekers after knowledge. As far as the weather permitted a most complete programme was given. Examinations of healthy brood, combs and hives were carried out, and contrasts drawn between the different colonies made it possible to grasp in a practical way—through seeing—the normal and abnormal conditions. Prominent beekeepers from different parts of the county took part in the programme, and furnished local experiences, which added valuable hints to the usual methods of work.

Beginning with the opening of spring the programme was arranged so that the year's work in the apiary was connected in the order of its appearance. In this way early examination for stores, queen clipping, disease diagnosis and treatment, early manipulation, honey harvest manipulations, requeening and wintering were discussed and the practical manipulations interwoven with

this cycle of subjects, left a more definite and lasting impression on all present. Beekeepers who attended these demonstrations as usual bore testimony to the benefit they had derived.

Bee Notes from the Kootenays

W. J. Sheppard, Nelson, B.C.

It is now possible to form some idea of the condition of the bees in this section of the province. After a more than usually severe winter, with longer spells of zero weather than generally occur I find the losses have not been so great as I expected. The bees that have come through are mostly in good shape, especially where proper attention has been given to spring feeding. The latter has been an important factor as there has been a good deal of rain and consequent lack of sunshine, also cold nights have been the rule. The bees have therefore not been able to gather enough nectar from outside sources to keep up the necessary food supply.

The fruit blossom is now practically over. The bees were able to work on the cherries for a comparatively long period but the apple bloom did not come in for the usual share of attention owing to the showery weather. Dandelions, always favorites with the bees, have had quite a long flowering period and are still being visited by them whenever the weather is favorable. White clover is just commencing to flower and I have had reports from some localities that the bees have been seen working on it. It is very strong and vigorous this year and gives great promise of yielding much nectar later on. All we require to get the desired result is strong colonies and fine weather during the latter part of June and all of July.

Several experiments are being tried here this season. Golden Italians are being given a trial, two special strains having been secured for this purpose. These bees are doing well and appear to be excellent workers. They are beautiful bees and very gentle, it being a pleasure to handle them. It will be of value to find out later on if they winter as well here as the ordinary three banded Italians, as they are not credited with being as hardy. We are also experimenting with the dry sugar feeders and intend keeping these feeders in the hives until the commencement of the honey flow. The bees seem to appreciate this attention, as the feeders are always crowded and the colonies are building up fast.

We are trying out a double-wall brood chamber, just a permanent packed around case of five-eighth inch lumber built around the usual single wall ten-frame hive body. This sits on the ordinary bottom board and is so arranged that none of the other hive fittings are altered in any way. We think this will afford enough protection in winter here except in some few localities where prevailing colder weather would make it imperative to resort to the collapsible packing case as well.

Another experiment receiving a share of attention is to try and get more and better sections by using a hanging section frame, interchangeable with shallow extracting frames. The hanging frames containing the sections are placed in the centre of the super with the extracting frames of built out combs at the sides. They are thus in the warmest part of the super, which will doubtless enable the bees to take to them sooner and fill and seal them over more rapidly. Many beekeepers have also expressed their intention of trying the suggested alteration of the "Demaree" swarm control plan.

The Outlook for Fruit

Dr. A. J. Grant, Thedford, Ont., President, Ontario Fruit Growers' Association

TO say that all fruit-growers are pessimists, would be an extreme statement, but my association of several years with the fruit business has led me to the conclusion that too many growers are pessimists for the general good of the industry. Whoever heard of a manufacturer or a business man, in the ordinary sense of the term, burning up his time and energy in depreciating the value of his own product, and yet the spectacle of fruit-growers, not only talking down their own product, but rushing into print to depreciate its value, has been painfully common during the past few years.

We are producing commodities, which should be, and are, among the staple articles of diet in most households. The fact that all fruits are more or less perishable introduces many problems, which it is up to the producer to solve. Would it not be more rational to devote our energy, as business men as well as fruit-growers, to the proper solution of these difficulties rather than singing "blue ruin from the housetops" into the ears of the very people who are reaching out every year for a supply of our products.

Not a Phenomenal Crop.

The approaching season should be a good one for the growers, but the stage has been prepared in the minds of the public for a session of over production and low prices—very good medicine for the consumer but mighty poor solace for the grower, who is depending upon the proceeds of his fruit to buy shoes for the children, and pay some of the other sundry expenses which must be met in the course of life's journey.

From present appearances we will be blessed this year with a good crop of fruit, from strawberries clear through to winter apples, but there is no reason to believe that the crop will be phenomenally large in any line, as nature's thinning has already been very much in evidence with at least several of our standard fruits. The weather during the time of fertilization has been anything but favorable to this most necessary process, so that "setting" has not been at all in proportion to the amount of blossom.

In the case of apples the weather has provided the most favorable possible conditions for the growth of fungus diseases, so that the fellow who has clean apples this year will be the one who has been on the job persistently and often with the spraying outfit, working hard to produce marketable fruit. I mention these factors simply to offset the idea that has already become too prevalent, that every old tree, in everybody's back yard, is going to be loaded to the breaking point with high-class fruit. I am fully satisfied that the producer of apples, who is properly caring for his orchard this season, and who is wise enough to have a proper selling connection, will make some money, but I am not so sanguine about what will happen the grower who has been neglecting his trees.

Call for Co-operation.

Large producers of fruit are usually pretty fair business men, and in my experience, most of them in Ontario have done well and are continuing to make money. The salvation of the smaller grower is undoubtedly to join with a number of his neighbors and form an association so that the combined output will permit of the employment of a business manager to run the association and market the fruit. Let me emphasize the importance of a business manager

in every sense of the term. Many of our associations are falling down because of the fact that the manager is either not a thorough business man who knows the trade and has selling connections, or is handicapped by the petty interference of members at every turn until his usefulness as a manager is utterly destroyed. Of course, it follows that a capable manager who can make a success of the business must be paid well for his services. Another stumbling block in many of our associations is that the members fail to realize the fact that a good man cannot and will not work for a mere pittance, and the fellow who is willing to do it will usually prove to be incapable. This is common logic which applies to business in every path of life. As growers, we have a great deal to learn about the art of selling.

Aim to Satisfy.

I might say that the strongest element in the success of the successful manufacturer or wholesaler is his ability to satisfy his customers and keep them coming. This is his constant aim, and commands most of his attention. An article might be constructed of the best material, in the best possible way, and yet if it did not meet the demands of an exacting public the energy and cost of production would be lost. It must be a "good seller." How much time do we fruitgrowers consume in studying and acquainting ourselves with the likes and dislikes of the consuming public? How much thought do we give to the manner in which they like their fruit brought to the door? How seriously do we consider the impression which our package of fruit is going to make upon the consumer after he has paid some real money for it? These are the questions which should be the burning ones in the minds of fruitgrowers who are anxious to establish permanent trade connections and thereby a sure outlet at fair prices.

People are becoming more discriminating all the time. Quality at fair prices is in constant demand. Inferior fruit is a menace to any market; the people don't want it, and the interests of the grower would be much better served if such stuff were never put up and nothing but first-class goods offered. Let us continually have the consumer before us and endeavor to make the impression so favorable that he will want more of the same brand of fruit.

People Have Money to Buy With.

In spite of the fact that our country is at war, we are enjoying a great period of prosperity. Thousands of people in our cities and towns are living better than they ever lived before; there is an abundance of money in circulation and many people will consume large quantities of fruit this year who have heretofore not been in a position to do so. This element in itself will enormously increase the home consumption of fruits of all kinds and should more than compensate for the restricted export facilities which promise to face the apple trade. Many industries have been waxing fat upon the outflow of money which is bound to go on as a result of the war. Let the fruit-grower take some comfort in the fact that the tide will turn his way when he puts his luscious berries and fruits on the market. Nothing is more appetizing or tempting than good fruit—let us see to it that nothing but the real good fruit gets on the market.

As fruit-growers we discuss the improvement of our marketing facilities, transportation evils and methods of distribution—

and these are vital questions which will stand a great deal of improvement, but the ghastly fact remains that none of us are trying hard enough to satisfy the consumer and make him come back for more. We can increase the home consumption of fruits enormously if we strive to please the eye as well as tickle the palate, never forgetting that the consumer must have a square deal in every particular and full value for his money. The tendency to "just put a few nice ones on top" is one of the frailties of human nature, and is not by any means limited to fruit-growers. "Put a few nice ones in the bottom" is a safer maxim and should be preached to every berry picker and fruit packer in the country. I have frequently watched packers, especially of apples and peaches, who had no financial interest in the fruit and yet would over-face, deliberately, in order to finish off a nice-looking package, never thinking of what the impression of the purchaser would be when he opened the package.

For the coming season: market only choice fruit, carefully graded and packed, using every possible care to get it to your market in good condition. Use good reliable trade connections in selling and you should show a substantial balance on the right side. The demand for good fruit will be very large.

Tests of Dust Sprayers

P. W. Hodgetts, Department of Agriculture
Toronto

The Ontario Department of Agriculture has purchased and is operating two power dusters this season. The larger outfit, purchased from the Niagara Spray Company, has been working in the Niagara district under Prof. L. Caesar, with apples and tender fruits, and the smaller machine, bought from the Dust Sprayer Mfg. Co., of St. Louis, is being used entirely in our leased apple orchards at Thedford, Paris and Wellington.

Two dustings have been applied on the apples with great satisfaction in as far as speed and covering power are concerned. None of our men are experts as yet in the use of the duster, but we find that the dust can be applied at least four times as fast as the liquid, with much comfort to the operators. Two men and one horse would take the place of three men and a team using the liquid. Nothing can be said as yet as to the effectiveness of the dust on scab and insects. If present weather conditions continue, we should easily find out by harvest time the value of this new method.

Conditions of the Seed Market

G. Le Lacheur, Seed Division, Ottawa

Owing to the accumulation of large stocks of field root and vegetable seed supplies previous to the outbreak of war there was not much difficulty in supplying demands for most kinds of seed this spring, but unless much more seed than usual is grown in North America this year the situation may be serious in the spring of 1917. It is impossible to estimate to what extent seed growers in France who have been quite ready to take contracts may be able to make delivery.

Previous to the war a bonus of subvention was offered to growers to encourage the production of these seeds in Canada and when it became apparent that European supplies might be cut off or greatly curtailed, further efforts were made to stimulate home production. Farmers and gardeners were advised to save parent stock

for planting in the spring of 1915 and specially-trained men were employed to direct growers and inspect their crops. During the summer of 1915 field root and vegetable seeds were grown by 165 farmers and gardeners and inspected by officers of this branch. Many of them grew only sufficient seed for their own use, but 65 produced seed which passed inspection and for which subvention was paid. This quantity amounted to over 36,400 lbs., the subven-

tion being over \$1,300. The principal kinds and the approximate amounts produced were: sugar beet, 23,000 lbs.; mangel, 8,200; sugar mangel, 1,500; swede, 3,000; radish, 400; garden beet, 350; onion, 350.

The results generally have been satisfactory. The work of encouraging the production of these home grown seeds has been further extended this season but no estimate can as yet be made as to the quantities which are likely to be produced.

The Fruit Trade at Montreal

E. H. Wartman, Dom. Fruit Inspector, Montreal, P.Q.

TO-DAY, June 21st, as we say the longest day of the year, has brought us nearly to the close of imported strawberries for 1916. Shipments have come from Florida, Louisiana, Tennessee, Delaware, Maryland and Illinois, to the extent of 97 cars, which have aggregated at least \$1,000 per car, or \$97,000. This may seem a large quantity of this one kind of fruit to use in one city in so short a time, but when we consider it takes thirteen cars of strawberries to give each family one quart box in our city, our largest shipment in one day being five cars, would lead us conclusively to know many go without any of this most luscious fruit. I have had the pleasure of inspecting these ninety-seven cars, for honesty of pack. This has been the record year for quantity imported, and I think it quite proper to give credit to whom it is due, the berry boxes from these various States have been full pints and quarts, well filled, which has made the trade a phenomenal success.

The twentieth of June brought our first berries to hand from Ontario. They were sold by auction, at five and one-half cents a box, when Delaware berries brought at the same time fifteen cents. There seems to be something wrong in the price here. The price depends on size of box, quality of fruit and fulness of box. In the one case fruit was small and very green, and not well filled. The other boxes were full quarts, well filled, well ripened and in the best of condition. The greater part of the first and second days' shipments sold from seven and one-half to fourteen cents a box. I have never known berries of first picking to arrive so late. It has been surely an abnormal season for low temperatures and rain, which accounts for late ripening. However, these temperatures have been a blessing in disguise to the fruit men who have had berries three days in transit, and landed in splendid order. The bunkers had large quantities of ice left, which preserved the fruit.

The arrivals of California fruits, while ten days in transit, constitute a wonderful success. An expert who might try to devise a better package or better system of packing would have a hard task. The present package and packing has proved a great success.

The receivers delight in handling it, as it keeps well for many days after arrival. This gives them ample time to dispose of it at a remunerative profit. The banana trade is a wonderful trade. Its development has been phenomenally great. I think I am correct in saying there are more cars of this fruit consumed in our city than any other variety of fruit, not excepting the apple. It is the year around trade. Twenty-five years ago I paid fifty cents a dozen for bananas in Kingston, Ont., which would not cost to-day more than twenty cents for the same sample. The reason this fruit has so large a sale is, firstly, because it is wholesome. The second reason is, you can buy more

pounds for \$1 of this fruit than of any other, and freer from insect pests and diseased spots. For instance, to-day California cherries sell for fifty cents per lb. Bananas, if weighed, would cost about two cents per lb. These prices are the extreme prices to-day.

Apples first arrived from California, and sold on 19th June, brought \$2.50 per box of three pecks. These were marked by importer, No. 2 Astrachan, and other varieties. There seems to be a lot of money in circulation here, which leads our fruit men to believe in a good summer's trade.

Manitoba

Jas. A. Neilson, Man. Agri. College, Winnipeg

During the past two years insect pests have been reported as doing a great deal of damage to shade and ornamental trees in Manitoba. In response to numerous requests for information on how to combat the various destructive insects, the Department of Horticulture and Forestry of the Manitoba Agricultural College decided to give a series of lectures and demonstrations on sprays and spraying, for the control of tree pests. This work is in charge of J. A. Neilson, of the Horticultural and Forestry Department.

Demonstrations were given at fifteen points in southern Manitoba. At each of the places visited, much injury was found to have been done. In some of the towns in the southern districts, as high as thirty per cent. of the Manitoba Maples were found to have been killed, and a large percentage injured. The reliable authority in one of these places estimates that fifty per cent. of the native maples have been destroyed. The aphid and the cankerworm have been responsible for nearly all of the losses sustained in the places visited. The department are recommending the use of arsenate of lead for the cankerworms and other biting insects, and nicotine sulphate for the aphid. Spring and fall cankerworms were found abundantly at Carman. In some places trees were almost defoliated by the cankerworms.

Several people in the vicinity of Morden, Carman and Roland reported the presence of a small dark brown beetle in enormous numbers. These beetles attacked the various members of the poplar family, cottonwoods, balm-of-gilead, and willows were badly infested. The insects appear very quickly, and do the damage in a short time. After they have attacked a grove of trees, the trees appear as though they have been scorched by fire. Specimens of these beetles were collected, and upon examination proved to be the willow leaf beetle (*Galerucella decora*), a species of beetle which infest poplars and willows.

Cutworms have been doing great damage to garden crops, spring grains, and alfalfa. A gentleman living near Portage la Prairie

Douglas Gardens

OAKVILLE, ONT.

IRISES.

In order to encourage the planting of Irises in the month of August—the best time for setting out Rhizomatous Irises—we offer a special discount of 20% on all orders for any Irises named in our Planting List, except Japanese Iris and Monspur and Orientalis, received up to the 31st August; and carriage to any part of Canada will be prepaid on all such orders.

16 vars. of Tall Bearded Iris.

5 vars. Interregna Iris.

6 vars. Pumila Hybrids.

also Florentine Alba and Pseudacorus. Planting list sent on request.

JOHN CAVERS

Peerless Hardwood Climax Fruit Baskets AND BERRY BOXES



Heaviest, Strongest and Best

In the market. Especially suitable for long distance shipping.

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HONEY PAILS

Honey Pails (lithographed stock and plain), 60-lb. cans.

Glassware, Bees, Queens, Honey, Wax.

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Queens of MOORE'S STRAIN of Italians

PRODUCE WORKERS

That fill the super quick
With honey nice and thick.

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Untested queens, \$1.00; six, \$5.00; 12, \$9.00. Select untested, \$1.25; six, \$6.00; 12, \$11.00.

Safe arrival and satisfaction guaranteed.

Circular free.

J. P. MOORE

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QUEENS

Three band Italians, bred for honey and gentleness. From imported stock of medium color.

	1	6	12
Untested	\$0.75	\$4.25	\$ 8.00
Select untested .	1.00	4.75	9.00
Tested	1.50	8.75	17.00

Breeders, \$3.00 to \$5.00.

Every queen PURELY mated. Safe delivery and perfect satisfaction guaranteed.

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FOREHAND'S ITALIAN QUEENS

Gentle, good honey gatherers, bred for business. Their mothers were imported—the best to be had. If you buy once you will buy always. Just look at these prices. Where can you find better?

Untested July to Oct. 1, 50c each in any quantity.

Select untested, July to Oct. 1, 1, 75c; 6, \$4.25; 12, \$8.00.

Select tested, 1, \$2.00; 6, \$11.00; 12, \$20.00.

We guarantee that all queens will reach you in good condition, to be purely mated and to give perfect satisfaction. All orders filled at once.

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Leather colored Italian Queens, choice breeding queens at \$5.00 each. I guarantee these Queens to be as good as any imported Queen, barring none. Money refunded if dissatisfied after a year's trial. Warranted purely mated Queens, \$1.00 each, \$10.00 a dozen. Untested, by return mail, at 75c each, or \$9.00 a dozen. Tested Queens, \$1.50 each.

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Bees by the Pound, Nuclei or Colonies

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Let us quote you prices on large or small quantities. Our prices are right. We guarantee safe delivery or money refunded.

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Sole Agents for Root's Famous Goods. Also Canadian made goods.

Anything from ¼" cement coated nail to a Power Extracting Outfit.

All kinds of Bee Literature. Ask for Catalogue.

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185 Wright Ave., Toronto, Ont.

had an eight acre field of alfalfa nearly destroyed by the red-backed cutworm. Several sections, one square foot in area, were examined to determine the degree of infestation. Counts were secured, which ranged from twenty-eight to seventy to the square foot. One could be perfectly safe in saying there were millions of cutworms in that alfalfa field. In another section, a sixty acre field of wheat was practically destroyed by cutworms.

The spruce gall louse was found to be doing damage to black and white spruce in various sections of the country.

During the past winter, great damage has been done to young fruit trees by bush rabbits. Owing to the great depth of snow, the rabbits could not be kept from the trees as in former years. The result is that many trees have been practically ruined by girdling.

The problem of controlling the different kinds of destructive insects in the prairie provinces is likely to become more important as years go by, and the country becomes more thickly settled.

British Columbia

R. C. Abbott, Coast's Market Commissioner

There has been quite a brisk demand for fresh fruits in Vancouver lately (June 17) and sales have been heavy in all kinds, with the exception of gooseberries. Reports show gooseberries to be a heavy crop and growers would do well to consider the advisability of selling to the canneries and placing only a very limited amount on the market, as the high price of sugar will retard the sales to some extent.

The demand for rhubarb is well over. Some of the growers have been shipping in a new kind of box, which is about three inches longer and two inches shallower than the box used by the majority of the growers. This new box holds around 35 to 37 lbs. nett, and in our opinion should be discarded and only the one size box used (20 ins. x 15½ ins. x 7¾ ins.).

Strawberries from local British Columbia points have been coming in in limited quantities. Imported berries from White Salmon Valley and Puyallup, Wash., continue to come in, and the prices quoted will, no doubt, have a tendency to pry down the price of British Columbia berries. The majority of restaurant managers and retailers now demand British Columbia strawberries, and give our berries the preference whenever they are packed and graded properly.

My office will distribute five thousand pamphlets next week, advertising our British Columbia strawberries. Each of the domestic science classes in the city is being furnished with one crate of British Columbia strawberries for class work. Some of the above pamphlets, which contain considerable information, will be distributed amongst the school children.

Buying potatoes for Eastern markets was very brisk from June 1st until June 14th, during which time some thirty-five cars were sent out of the province. These markets have again weakened, owing to shipments of new potatoes due to arrive from Virginia in about ten or fourteen days' time.

Ten cars have been shipped east from the storages in this city during the week. There are approximately fourteen cars still in the city. The local market is not likely to improve as long as growers continue to ship in small lots on consignment. Growers who have small lots to sell would no doubt do better if they would assemble

EUROPEAN FOUL BROOD

is spreading in various parts of the country. The first step in its cure is a vigorous strain of ITALIANS

The Root Strain of Bees have shown
..Themselves to be Highly Resistant..

While we do not claim their introduction will alone cure European Foul Brood, or that it will not make a start in their colonies, we have reports of where they have, with a little help, fought themselves nearly clean of European Foul Brood which was all around them in black and hybrid colonies.

These queens will be ready for delivery about June 1. Orders will be filled in rotation. Later in the season we will make delivery promptly. PRICES.—Our regular price is \$1.50 in June and \$1.00 after July 1 for untested queens; but we will club them with Gleanings in Bee Culture for one year and a queen for \$1.50, provided we can fill orders for queens when we have a surplus of them. This will probably be July and August.

The A. I. Root Company - - - Medina, Ohio

their stocks at one point, in order to enable buyers to make up car lots. A number of growers who recorded their stocks with this office during the past two weeks have sold their potatoes direct to Eastern buyers for \$5.00 to \$7.00 per ton higher than those who sold independently. New potatoes are coming in in small lots. Reports received would indicate these to arrive in quantities about July 20th to 25th.

Niagara District Notes

F. G. H. Pattison, Winona, Ont.

June has been characterized by excessively cool and wet weather, which has made it hard for fruit growers to get their work done. Cherries, plums and apples seem to have suffered most. Small fruits have done well. Most of them never looked better. We only need a continuance of the weather we are now getting to ensure a bountiful crop of berries of all kinds.

The following is an estimate of the present state of the fruit crop in the Niagara belt (June 23rd). Strawberries began to come on the Hamilton market on June 13th, and by the 17th were in good supply. The sample, however, was very poor, small and half-green, only ripened on one side, owing to lack of sunshine. Later berries, however, will be a good sample, and a heavy crop, provided only that a reasonable amount of sunshine is forthcoming. Red and black currants, and gooseberries promise a full crop. Raspberries and blackberries were considerably winter-killed in places, but apart from that, they also promise a good crop. Sweet cherries are not more than from 30 to 40 per cent. of a crop. Sour cherries are better. Early Richmonds, 25 to 40 per cent.; Montmorencys, 50 to 60 per cent. Japanese plums have suffered badly; they are not more than from 10 to 25 per cent. of a crop. Other plums are as follows: Bradshaws, 80 to 100 per cent.; Washington, 30 p. c.; Lombards, 40 to 60; Reine Claudes, 30 to 50; Grand Duke, 25 to 30; Guis, 30 to 35.

Peaches are nearly a full crop of all varieties, except in orchards that were not sprayed early with lime-sulphur. In such orchards the crop has been much reduced. Even in well-sprayed orchards, curl leaf has been present, but in the others it has been very bad. There has also been some black aphids attacking sweet cherries. Pears have also suffered from the weather. Bartletts, 80 per cent. of a crop; Duchess, 25 to 30 p. c.; Anpons, 60 to 70; Keiffers, 50. Grapes look healthy, and have made a good growth. They are now blooming freely, somewhat later than usual. Apples above the mountain have not set well, and are likely to be light. Below the mountain they are better. Early and fall varieties promise well; winter varieties, medium.

On the 31st of May last, a deputation from the Niagara Fruit Growers' Publicity Association interviewed the Lincoln County Council, at St. Catharines. President Fairbairn, of Beamsville, gave a short review of the work done last year, and asked the Council to make a grant to the Association this year. He stated that the advertising this year would be doubled, because of the excellent results obtained last year.

The Association has adopted a label, and will sell it to fruit growers, with the hope of improving the grade, and standardizing the pack. The Association asked for a grant of \$300. Messrs. Sheppard, W. H. Bunting and F. M. Clement spoke of the work done, and to be done, by the Association. Mr. Clement pointed out that the labels will be numbered.

ITALIAN QUEENS

as good as can be produced by any one at any price. I have been a queen specialist for more than a quarter of a century.

Untested 50c each, Select Untested 60c, Tested \$1.00.

Pure mating and reasonable satisfaction. No disease. I guarantee every queen.

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CARNIOLAN GOLDEN

and Three Banded Italians.

Untested—1, 85c; 6, \$4.80.

Tested—1, \$1.25; 6, \$7.20.

Bees—\$1.25 per lb.

Breeding Queens—\$4.00.

Nuclei, without queen—1 fr., \$1.75; 2 fr., \$2.75; 3 fr., \$3.50.

D. L. DUTCHER - Bennington, Mich.

BEEES FOR SALE

Italian Bees, lb., \$2.25; 5 lbs., \$10.50; 1-L Frame, \$2.00; 2 Fr. Nuc., \$3.00; All with Queens. Italian Queens, 75c each; 6 for \$4.00. Complete Catalogue Free. Listing Beginner's Outfit.

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of the E. E. Mott strain. Untested, 90c; Guaranteed, \$1.00 for June. July, unt., 75c; Guaranteed, 90c. Send for list. Safe delivery and satisfaction guaranteed.

EARL W. MOTT - Glenwood, Mich.

Three Banded and Golden Italian Queens

Untested—\$1.00 each; 6 for \$5.00; 12 for \$9.00.

Selected untested—1 for \$1.25; 6 for \$7.00; 12 for \$14.00.

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Queen Breeder. RIDGETOWN, ONT.

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Jones' Weed Process Comb Foundation, Improved Model Hives, and all other kinds of Bee Supplies. We can also mail queens within a few hours of receipt of order. Leather colored, hardy stock. Try us.

	1	6	12
Untested	\$1.00	\$5.25	\$10.00
Tested	1.50	8.00	15.00
Select tested	2.00	11.00	20.00

Breeding Queens, \$5.00 each.

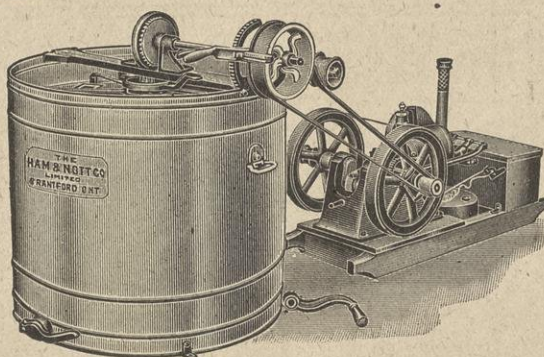
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More beeswax wanted—cash or exchange.

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The genuine "QUALITY" kind of dark Italians. Unt., 75c each, \$8.00 per doz. Circular free.
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GOLDEN YELLOW ITALIAN QUEENS

My specialty. Untested, 60c; doz., \$7.00. No orders filled unless cash is sent with order. Safe arrival.

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ANDALUSIA Box 12. Pa., U.S.A.
"The best all purpose bee."

Bees and Queens

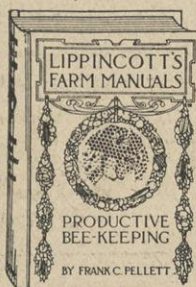
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Director of Colonization
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HON. G. HOWARD FERGUSON,
Minister of Lands, Forests and Mines.

and the Secretary keeps a record of these numbers, so that every grower having labels will be known. Secretary C. E. Fisher thanked the Council for their last year's gift, and pointed out the needs of a larger grant this year. A grant of \$150 was made, the same as last year. The Lincoln County Council has also made a grant of \$500 to obtain the services of a District Representative, who will shortly be appointed by the Ontario Government.

The Dominion Cannery Co. has been working on several orders for canned vegetables for the military forces. The most important of these was from the British War Office, for canned baked beans. This order is reported to run better than 7,500,000 cans.

The embargo placed by the British Government on imports of canned fruits, vegetables, etc., has been raised, insofar as it affects these imports from British dominions. This is of great importance both to canners and producers.

A recent report from Burlington says that owing to the heavy rains, plums, peaches and cherries have been badly injured, and the crop much lessened.

I understand that the Experimental Farm, Vineland, has an excellent crop of fruit this year. This farm has greatly improved, under the directorship of Mr. Clement, who has accepted a position as chief horticulturist with the new University of British Columbia. Mr. Clement will not leave before the end of August. The fruit growers of the Niagara District feel that they are sustaining a severe loss in the departure of Mr. Clement. He has not only done excellent work on the Farm, but has also been of great assistance to them in other ways. His successor will have to be a good man to measure up to the standard set by Mr. Clement.

The wet weather has seriously interfered with tomato planting. On well-drained, sandy or gravelly land the plants were got in early, and look well, but on much other land they were not got in till quite late, indeed, there are a number to go in yet. In consequence, the bulk of the crop will be late, and the crop is likely to be under the average.

Prof. Caesar, of the O. A. C., Guelph, has taken up his quarters for the summer upon a fruit farm two miles west of Grimsby. A number of experiments are being conducted under his supervision in the local orchards. One of considerable importance is the careful testing out of the new blower for applying lime, sulphur, arsenate of lead, etc., in powdered form to cherries, plums, pears and apples.

Early in June a deputation of the leading manufacturers of native wines in Ontario, called on the Ontario License Board and pointed out that to require them to sell their goods at the place of manufacture, would lead to the establishment of small factories in the large cities, with a consequent depreciation in the quality of the product, since the proper place to make wine was as near the vineyards as possible. The Board gave them no assurance, but it is likely that some concession in the way of permitting them to establish agencies in the large cities for the sale of their product, will be made.

Curl leaf is reported to be bad around Vineland, 40 to 50 per cent. of the peach orchards being seriously affected by it.

Mr. Boyle, who has been superintendent in the Bell Fruit Farm canning factory at Grimsby for some years, has gone to Essex County to become manager in one of the Dominion Cannery factories there.

Fruit Inspection in the East

G. H. Vroom, Chief Fruit Inspector for the Maritime Provinces.

Previous to 1913 the inspection of exported fruit was done at the shipping ports when it was being transferred from car to ship. This method was not satisfactory for the reason that when ships were loading there was a grand rush to get the cars unloaded as quickly as possible. The inspector did what he could while the fruit was passing between the car and the ship's hold. If he found a barrel falsely marked, the chances were that all the other barrels belonging to the same lot were by that time on board the ship. While the inspector had the right to hold shipments until he had completed his inspection he did not care to do so when the thermometer registered zero or below on the dock and there was danger of serious damage to fruit.

During these years of inspection at the shipping port two inspectors were employed in the Annapolis Valley where the bulk of

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MR. H. A. NALDRETT

has just arrived for a business trip throughout the United States and Canada. Mr. Naldrett's address during this period will be care

Messrs. Thomas Meadows & Co.,
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where please write him.

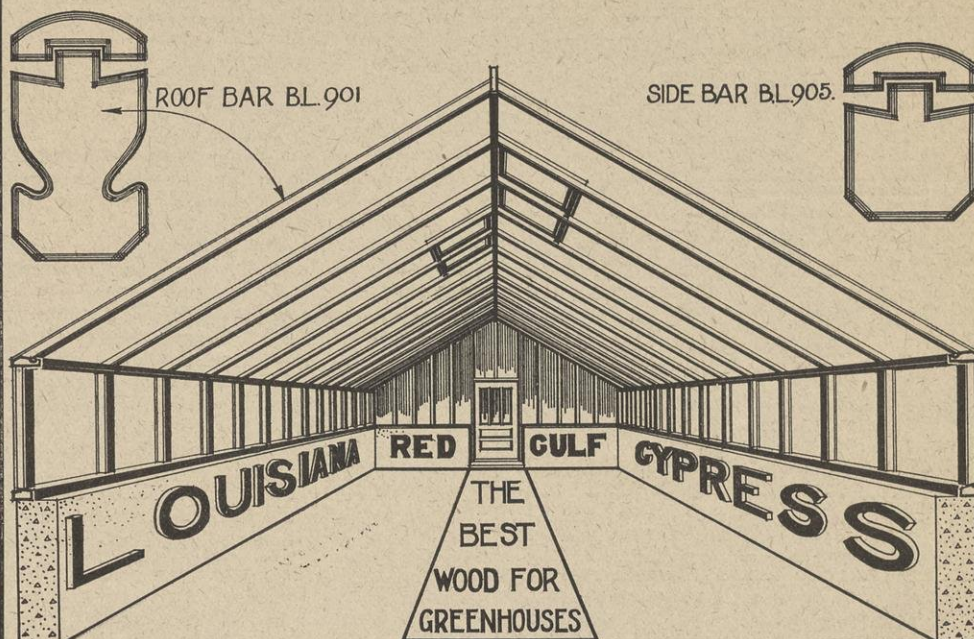
the fruit was grown. These inspectors traveled from place to place visiting fruit houses, giving instructions and incidentally notifying the inspectors at the docks when they had reason to believe that improperly packed fruit was being shipped, also from what place it was being shipped and the car number. This enabled the men at the dock to more quickly discover poorly packed fruit.

Now things are different. Nearly all the inspection is done at the point of shipment, that is at the fruit house or orchard when the fruit is packed. The fruit growing district is divided into sections. We have one hundred and ten large packing houses and each inspector is assigned a section embracing a number of these houses. In the early part of the season he visits orchards where fruit is being packed.

These inspectors are constantly on the move and visit all points in their section as often as possible. They inspect fruit any where they find it ready for market and forward their reports direct to the office of the Fruit Commissioner at Ottawa. Instruction is our strongest point. Inspectors act as instructors as well as detectives. We find that the percentage of growers who are dishonest when once they thoroughly understand how fruit should be packed, is very small. The fact that fruit was never better or more honestly packed than it was last year is a strong argument in favor of inspection at the point of shipment, where instruction can be given to the men in the fruit packing houses.

Leamington new cabbage has appeared on Toronto market, and sells at \$1.50 per bushel. Leamington hothouse tomatoes and cucumbers have been a feature on that market for some time.

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SKINNER
SYSTEM OF IRRIGATION
Control complete. Prevents drought losses. Reduces labor bills. Increases profit. Special Portable Line for \$11.75. Send for new Bulletin.
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Berries, Cherries,
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For full particulars and shipping stamp, write our Eastern Office, Dundas, Ontario.

Fruit Crop Prospects

The following information, received by telegram, at the office of the Dominion Fruit Commissioner, Ottawa, June 22, outlines the present apple situation in Ontario and Nova Scotia:

Ontario: In the Georgian Bay district apple trees are in good condition. The fruit has set well, and the weather is favorable. There is some danger of the trees being overloaded, and the fruit consequently small. This danger may be offset by a heavy "drop" in the near future. Very little spraying is being done.

In Western Ontario considerable scab is showing, and there is a prospect of much damage from this source. The crop will be good where spraying has been thorough, but it is generally feared that there will be a great deal of worthless and low grade fruit. A heavy drop is now taking place in unsprayed and insufficiently sprayed orchards. In Prince Edward County there is more spraying than usual, and the fruit is apparently setting well.

In the McIntosh and Fameuse section of Eastern Ontario scab is developing to a remarkable degree and has caused considerable dropping. No positive estimate of total crop can yet be made.

Between Toronto and Hamilton there will not be more than a 50 per cent. crop. Baldwins give best promise; Spies and Greening light. Scab is prevalent. Some well drained orchards promise a fair crop.

Nova Scotia: Conditions are generally favorable in the Annapolis Valley. Apples are setting well and promise a larger crop than was expected a few weeks ago. Weather conditions are good, and there is practically no fungus showing as yet. It is estimated that there will be 70 per cent. of a full crop, or slightly more than one million barrels. Gravensteins and Nonpareils are heavy, Baldwins and Kings medium, Starks and Blenheims light.

Annapolis Valley Notes

Eunice Buchanan

The weather during blossom time was about ideal for the setting of fruit in the Annapolis Valley, and there is plenty of moisture in the soil. Cherries, small fruits and some varieties of pears had an abundance of bloom, but reports from the apple orchards varied. On some farms the blossoms were very good, on others the Gravenstein and Ben Davis appeared light, and from several quarters orchardists complain of a scarcity of bloom. The present conclusion is, there may be an average crop. The first Gravenstein flowers opened on May 30th, they unfolded slowly this year.

Aphis were found to be plentiful on some apple trees on May 7th. Nests of American tent caterpillars were found at the end of May.

The first sprayings began about May 9th, and by June 3rd several orchardists had completed the second spraying. Hand-pump sprayers have almost disappeared, the power being replaced by different makes of gasoline engines, or various types of compressed-air sprayers. Lime-sulphur is still to the front in many localities as a summer spray, but an increasing number have gone back to bordeaux mixture, because they believe it to be less injurious to foliage.

The present price of apple barrels is cheap, twenty-five cents each, cash in fall to those whose credit is good.

Some people still believe in planting apple trees, though, of course, the uncertain war

conditions and shortage of men have deterred many from setting new orchards. One nurseryman near Berwick has sold over three thousand apple trees; another has sold eight hundred, and a third has sold one hundred, besides using a total of nine hundred trees to increase their own acreage.

The price of locally grown clover seed is thirty-five cents per pound. This is used as an orchard cover crop.

Fertilizers like most things have increased in price. Ground limestone in bulk loaded from the car is \$4.50 per ton (cash), slag \$15.00 per ton, nitrate of soda \$72.00 cash, per ton. Muriate of Potash is being bought from farmers in single bags or more at the rate of \$175.00 per ton.

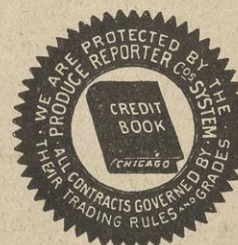
Spraying materials also have advanced in price. Last year copper sulphate could be bought for 8c per lb., this year it is 18c per lb. Lead arsenate is 8½c cash.

Good Prices Always



For Your Fruit and Vegetables

OUR facilities enable us to realize top prices at all times for your fruit, vegetables or general produce. Aside from our large connection on the Toronto Market, we have established branch warehouses with competent men in charge at Sudbury, North Bay, Cobalt, Cochrane and Porcupine. In time of congestion on the Toronto market we have a ready outlet through these branches. We never have to sacrifice your interests.



Branch Warehouses: Sudbury, North Bay, Cobalt, Cochrane and Porcupine. References: The Canadian Bank of Commerce (Market Branch) and Commercial Agencies.

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H. PETERS
88 Front St. East, Toronto

The Refrigerator Car Service

G. E. McIntosh, Forest, Ont.

The supply of refrigerator cars was a serious matter to fruit growers a few years ago, and while even now there are times when considerable delay is experienced, yet the service has greatly improved. Realizing the importance of having cars when the fruit is ready to move, I have endeavored on behalf of the Ontario Fruit Growers' Association, to impress this upon the railway representatives, and have the past two years been able to supply them before the rush comes, with a fair estimate of the number of cars that would be required and the probable shipping period at each point. This has been appreciated by the railways, and they have assured me that it is a great help in arranging for an adequate supply of cars.

One of the railway companies which fruit growers criticized two years ago for having gone behind in its refrigerator car equipment from 955 cars in 1908 to 941 cars in 1912, is to-day credited with having 1,990 refrigerator cars, while other lines have also made some increases, there being 4,716 refrigerator cars to-day, compared with 2,466 in 1909. It requires an equivalent of say 100,000 cars to market the fruit and vegetable crop of Ontario. These cars have an average haul of 216 miles. The total box and refrigerator car equipment of all the railways operating in Canada is 151,323, so that approximately two-thirds of the entire freight car supply would be required to move the output of this great industry.

In 1914 during the apple movement in Ontario more refrigerator cars were required for fruit than all the Canadian railways possessed. However, we appreciate the fact that the supply is now being increased. In 1909 there was one refrigerator car for every 2,023 of the population. To-day there is one for every 1,696 of the population.

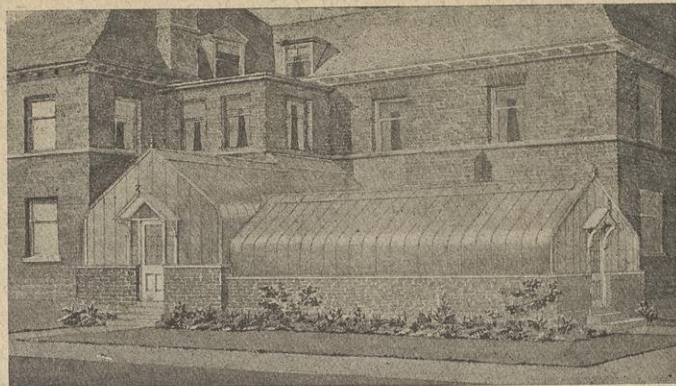
The McIntosh Apple

C. B. Hutchings, Macdonald College, Que.

The headquarters for the production and marketing of the McIntosh apple are in the province of Quebec. It thrives best along the banks and streams of the St. Lawrence River and will be found in every orchard, small and big, growing beside its celebrated ancestor the Fameuse.

The supply of this apple has not kept pace with the demand. Prices are good and steady. No. 1's in boxes readily bring \$2.50, while the same quality in barrels are bought for \$4.50 and \$5.00. In the face of these facts of steady demand, good prices and the excellent qualifications of the fruit, it is strange that the supply is so limited. An investigation into this matter, made by the Quebec Pomological Society in 1912 and 1913, proved that the orchards of the majority of the farmers and fruit growers were grossly neglected. With but few exceptions, such as at Abbotsford, Sherbrooke, Farnham and Knowlton, and some of the larger commercial orchards, the trees were left untouched. Very little cultivation or pruning was done. Few men did any spraying and still fewer considered the all important matter of grading and packing. The fruit was often sold on the trees to the first buyer who came along, or disposed of to middlemen. A lack of unity, ignorance and carelessness were found to be the three main reasons responsible for this unbusinesslike condition.

Something should be done to arouse our Quebec fruit growers to their responsibility.



A Delightful Addition to Your Home

BUILT to suit your individual requirements, a greenhouse not only beautifies and adds to the value of your home, but it is a constant source of pleasure to your family and your guests.

It enables you to extend your gardening operations to the twelve months of the year, furnishing your table with flowers and out-of-season salads. Think over the possibilities, then write Dept. B.

GLASS GARDEN BUILDERS, Limited

201 Church St.,
Toronto.

Transportation Building, St. James St.,
Montreal.

Factory—Georgetown, Ont.



The Hand Scuffler in Use.

Do You Want a Handy HAND SCUFFLER

THE handy hand scuffler is an ideal implement for garden weeding, and mulching. It is made of the best saw steel, and has three cutting edges, on two sides and one end. Lying flat on the ground, a slight pressure either in pushing or pulling only is required. It can be used endwise to chop tough roots. It is especially adapted for cleaning around bushes and plants.

Made in two sizes. The blade on the large scuffler is 9 inches by 3 1/4 inches; in the small one 6 inches by 2 3/4 inches. The handle is about five or six feet in length. The small size is more convenient for the enthusiastic woman gardener.

SPECIAL PREMIUM OFFER

One hand scuffler FREE (as above) with each new single subscription to The Canadian Horticulturist at \$1.00. Will also sell these (express extra) direct to subscribers at 50c. for the small and 75c. for the large size.

THE HORTICULTURAL PUBLISHING CO.

Peterboro, Ontario

LIMITED

The Fruit and Produce Market

The Commission firms undernoted wish consignments of fruit and general produce. They will be pleased to have you write them for information, shipping stamps, etc., if you have fruit or vegetables for sale.

Top Prices, Quick Returns and a Square Deal

THE WENTWORTH ORCHARD CO., Ltd.,
109 King St. East and Yonge St. Wharf, Toronto
The only wholesale Commission House in the city to have consignments by either boat or rail unloaded directly into Warehouse. Wentworth Brand Fruits are advertised extensively and there is a constant demand for them. Ship to The Wentworth Orchard Co., Ltd. Send for Shipping Stamp.

References: **DUNNS, ROYAL BANK**

H. J. ASH

44-46 Church St. - Toronto, Ont.
CONSIGNMENTS OF FRUIT & VEGETABLES
SOLICITED

We give personal, consistent and reliable attention to every consignment. Shipping stamps furnished on request.

DAWSON-ELLIOTT Co.

32 West Market St., Toronto, Ont.

Wholesale Fruit and Produce. Consignments Solicited.

STRONACH & SONS

33 Church St., Toronto, Ont.

Wholesale Fruit, Produce and Commission Merchants.

LAING BROS.

307-309 Elgin Ave., Winnipeg

Wholesale Fruit, Groceries, Produce, Grains, Hay and Commission Merchants

We want Consignments

of Tomatoes, Peaches, Cherries, Grapes, and all kinds of fruits and vegetables in baskets, in car lots or less. We make a specialty of barrel apples in car lots. Write us.

HERBERT PETERS

88 Front St. E., Toronto, Ont.

Wholesale Fruit and Produce

See advertisement on page 184.

WANTED

Consignments of Cherries, Tomatoes, Peaches, Grapes and all kinds of fruit; also carlot apples. Centrally located, convenient to all car tracks. Commission 10%.

HYSLOP & SONS, 132 Princess St. Winnipeg, Man
References—Any mercantile agency, or Bank of Hamilton, Hamilton, Ont.

FRED BARKER

25 Church St., Toronto, Ont.

Representing J. & H. Goodwin, Ltd., Manchester; Thos. Russell, Glasgow; Nothard & Lowe, London; G. R. Cooper, Liverpool.

APPLE RECEIVERS.
Consignments Solicited.

SAMUEL HISEY

82 Front St. E., Toronto, Ont.

Wholesale Produce and Commission Merchant. Consignments Solicited.

The Oldest
Commission House
in Toronto

McWILLIAMS & EVERIST

Send your
Consignments.

McBRIDE BROTHERS

J. R. McBride, Proprietor.

Fruit Exporters, Importers and Commission Merchants.

Consignments solicited. Terms cash.

35 CHURCH ST., - TORONTO, ONT.

This Space Costs \$1.40
per month.

Order now for the next
five months.

ties and to the excellent opportunities which they are daily neglecting and throwing away. They have a high class apple in the McIntosh, the Montreal market is close by, there is a steady demand for high class fruit and a good price for it when it goes on the market. It remains for the grower to produce the quality and the quantity if the McIntosh is to be a good commercial proposition.

To produce the quality it is essential that the orchards be carefully attended to. The trees should be at least 30 feet apart, both ways, and a good system of cultivation and draining observed. Careful pruning and systematic thorough spraying at the proper seasons should be carried out. When the crop is ready to harvest, the trees should be carefully gone over two or three times, and the fruit graded and then honestly packed into boxes and barrels properly and clearly labelled. Cooperative societies should be organized in every district and cold storage plants erected at convenient centres, arrangements should be made with the railway and express companies for better transportation and lower rates. Instead of getting 24% of production of No. 1's as is now the case, the farmer should then be able to get 70% to 80%, and instead of selling his fruit on the trees to a travelling buyer at a low rate, he would do his own packing into neat boxes, selling direct to the trade and receiving as high as \$2.50 per box and \$4.50 per barrel.

The McIntosh can be grown over a wide range of territory, comes into bearing quickly, is a fairly late apple, and one that will keep well in cool storage. It has one disadvantage. It is subject to scab. This, however, can be overcome by spraying.

The demand for this apple is in late fall and winter, especially at Christmas and New Year; and the fact that it lends itself splendidly for marketing in fancy packages at this time, makes it a popular and profitable variety.

Instruction Work in B.C.

A number of changes have been made in the staff of the Horticultural and Fruit Pests Inspection Branches, of the British Columbia Department of Agriculture, due to the reorganization of these departments. The assistant horticulturists have been appointed pest inspectors, combining the two activities which naturally dovetail one with the other. In each of the Assistant's districts, Inspectors acting under their direction are appointed, and these inspectors perform inspection-work and such horticulture duties as the horticulturists in charge direct.

Mr. E. W. White, B.S.A., is the Inspector for Vancouver Island, and has been busy with three spraying machines trying to control the California pear-thrips in the most seriously affected orchards of the Royal Oak, Gordon Head, and Keatings districts in cooperation with the growers. There are also the codling moth, bud-moth, strawberry weevil, and various aphids problems to be dealt with.

In the Cowichan district, Mr. R. Glendenning, of Duncan, is Acting-Inspector in charge of control measures for the widespread "black-currant bud-mite" infestation.

Mr. R. C. Abbott, Coast Markets Commissioner, Vancouver, has been appointed an Inspector and has been placed in charge of the inspection of potatoes for export. He is assisted by Inspectors T. H. Bain, Chilliwack, and H. T. Thompson, Vancouver. Mr. Abbott will be in temporary charge of field

KEEP IN MIND—

Our Annual Exhibition and Fall Packing Number PUBLISHED SEPTEMBER 1st

This is our big fall special which comes out in time to catch the Canadian National Exhibition and other fall fairs. Just the issue in which to bring your products before our fruit growers when they are buying their fall supplies for home and business.

Reserve space early. Last forms close August 25th.

THE CANADIAN HORTICULTURIST,

Peterboro, Ontario

inspection work for the Lower Mainland.

Mr. H. Thorner, B.Sc., is in charge of the horticultural work on Vancouver Island and the Lower Mainland, as well as the Interior sections as far east as Shuswap and Nicola.

Mr. P. E. French, B.S.A., assistant horticulturist, has changed his headquarters to Vernon. His territory now covers the Okanagan Valley, the Shuswap Lake section, the main line east to Golden, and the Windermere Valley. The inspector in the Salmon Arm and Spences Bridge district is Mr. C.

E. Barton, of Salmon Arm, who is in charge particularly of scab-control and other experimental work, codling-moth infection at Kamloops, and San Jose scale infection at Spences Bridge.

In the Vernon district the most important pest-control work is the spraying and other measures for codling-moth, in which three Department power-spraying outfits are in operation. A series of spraying experiments for apple-scab and other pests, the control of fire-blight, and the inspection of foreign refrigerator-cars for codling moth are being conducted at Vernon.

Assistant horticulturist Ben Hoy, B.S.A., has changed his headquarters from Vernon to Kelowna, and has as his territory Okanagan Centre south and the Similkameen. The inspector for the Kelowna district is Mr. Frank Cheeseboro. In this section the pest-control work is principally for codling-moth. The four department spraying outfits have been operated at Westbank. There are also limited codling-moth areas in which other methods will be used; fire-blight control, suspected San Jose scale infestation, and spraying experiments are the important matters. Mr. J. Tait, Summerland, is the inspector for this district as well as for Peachland, and is working chiefly on fire-blight.

Naramata, Penticton, and Kaleden are served by G. R. Castner, of Penticton.

The Grand Forks, Rock Creek, section is being served by Mr. E. C. Hunt, B.S.A., acting assistant horticulturist, who has also been appointed an inspector. The pest-control work centres chiefly on fire-blight.

In the West Kootenay, Mr. M. S. Middleton, B.S.A., assistant horticulturist at Nelson, has charge, as well as the Arrow and Slocan districts. An inspector, Mr. J. E.

Use Hammond's Slug Shot

For Potatoes, Cabbage, Roses, etc.



"Sold by Seed Dealers of Canada."

If you have never used Slug Shot go to your nearest seed store and say: "Give me a barrel, a keg, 25 lbs., 10 lbs., 5 lbs., or a 1 lb. carton," as the case may be, of Slug Shot. After you have tried Slug Shot you will find nothing else to be its superior, because you know from experience that Slug Shot is reliable in everything that goes to make a useful insecticide for garden or field use. Send for pamphlet.

Hammond's Slug Shot Works

Beacon, N.Y.



Deep Seedbeds Properly Prepared

—That's what you get when you use the deep-cutting, double-turning, leveling and compacting

"Acme" Pulverizing Harrow

"The coulters do the work"—you should see them mix the soil, cut clods, weeds and trash and make the whole into a firm yet mellow seed-bed several inches deep. The "Acme" is simple, durable and easy to pull. Sizes 3 ft. to 17 1-2 ft. wide. Thousands in use. Send for booklet now.



No 23.

6 1/2 ft. wide

The Bateman-Wilkinson Co. Limited

50 1/2 Symington Avenue Toronto, Ont.

SANDER & SONS

ORCHID GROWERS

The Finest Stock in the World

Catalogue on Application

ST. ALBANS - ENGLAND

When in Toronto

COME and see us. Poke about our premises. Listen to the customers who come a-buying. Ask them why they buy from us. Ascertain the prices they pay. Ask them why they pay such good prices. If you choose, go to other commission houses and satisfy yourself about us, and our ability to sell at top prices.

Your Fruit and Vegetables

What are you going to do with them this year anyway? You must send them to some commission house. We invite you to tie up with us. Square dealing, quick settlements, top prices—what more can you ask for?

Shipping stamps and market reports on request.

WHITE & CO., Limited
FRONT & CHURCH STS., TORONTO

Wholesale Fruit Importers and
Commission Merchants

For the Land's Sake

Use the best Manure
and get

GOOD CROPS

For Nurseries, Fruit Growers
and Gardeners.

Sure Growth Compost

(A Composition of all Natural Manures)

Makes poor land fertile and keeps fertile
land most productive.

Special Prices on Summer Shipments

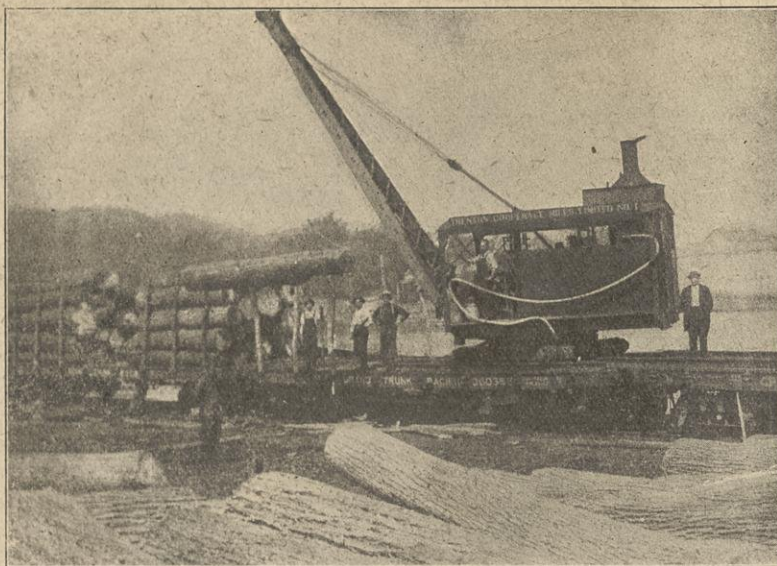
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133 Victoria St., TORONTO

Telephones: Main 2841; Residence, Park 951

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LOADING OUR LOGS

One of Our Specialties is **THAT GOOD APPLE BARREL**

Not made from cull staves the rejections from flour and other stock of various bilges, but cut from absolutely mill run timber with exactly the correct bilge and thickness. Heading mostly basswood which takes a nice brand, is kiln dried and does not warp. Hoops standard. The barrels are all

MADE BY MACHINERY

which insures an even croze and every head fitting. Why be worried with poor barrels causing loss of time? We make sixhoop eight hoop, also six wood and two wire, which is the favorite. If these barrels get wet hoops cannot break. We can ship car loads containing about 330

DELIVERED AT YOUR STATION

We ship thousands of barrels yearly to many large growers, dealers and fruit associations in Western Ontario, besides supplying 80% of the cooperage stock and barrels used in the great Eastern Ontario Apple Belt. Therefore we must give the best value obtainable. Our main plant is one of the

FINEST ON THIS CONTINENT

Write us for prices on cooperage or barrels delivered your station.

"Owing to the uncertainty of labor, we cannot guarantee present prices or prompt delivery except on early business."

TRENTON COOPERAGE MILLS, Limited

TRENTON, ONTARIO.

Johnson, is stationed at Creston, under Mr. Middleton, and will work principally on apple-scab control.

Items of Interest

During the last week of May the city sprayer was used on the shade trees on the streets of St. Catharines for the first time. The work was done under the supervision of Inspector Elliott, and E. H. Stork, who is experienced in spraying methods. With the aid of a gasoline motor, the spray was applied to the tops of the trees by a pressure of 250 lbs., and the trunks were also carefully sprayed. It is estimated that about 300 shade trees are affected with scale throughout the city. Last year a few trees were sprayed, and the beneficial results are very marked.

On June 17th, new potatoes and new carrots appeared on Hamilton market for the first time. The potatoes sold at \$2 per basket, and the carrots at 50c per dozen bunches. Old potatoes rose to \$2.50 a bag. The rains have seriously interfered with the early potato crop, and the crop is likely to be late and smaller than usual.

There have recently been substantial reductions in ocean freight rates between Canada and Great Britain, and according to well-informed shipping interests, there will shortly be further reductions, which will bring the rates 30 per cent. below what they were three months ago. It is expected that Canada will benefit by this, and that British Columbia salmon will be secured by the War Department, instead of Alaskan, and Ontario fruit instead of California.

Potash is being made on a considerable scale by a West Virginia company, from the waste stems of tobacco plants.

The New South Wales Government office in London has secured from the war office orders for some 3½ million lbs. of Australian jam. A number of the Australian states are supplying jams to the war office, but an innovation in this respect is the inclusion of melon jam, produced by New South Wales. In addition, large quantities of quince, apricot, and peach jams from New South Wales are in use by the British military authorities.

Messrs. E. D. Smith and Son, Winona, are engaged in getting out a large strawberry jam order for Great Britain.

A serious pest to the grape industry in Ohio is the grape-berry worm, a small insect which bores into the young grapes and renders them useless for marketing. It can be controlled by spraying twice. First, when the grapes are about ¼ of an inch in diameter. 4 lbs. arsenate of lead are used with the 2-3-4 formula of Bordeaux, plus 2 lbs. of dissolved soft soap as a sticker. The second application is made about six weeks later, to kill the second brood. Hand spraying gives better results than machine work.

A Large Establishment

Members of the Ottawa Vegetable Growers' Association paid a visit, in June, to the extensive glass establishment of H. H. Wright, Aymer, Quebec, about nine miles from Ottawa. After the Easter rush was over, several carnation houses were cleaned out and planted with 19,000 tomato plants. These were expected to mature in July, prior to carnation planting. Crops of beans and spinach proved profitable in May. The florist side of the business has been maintained, with a large spring crop of sweet peas, carnations and roses. Bedding material was almost cleaned out. Mr. Wright's plant is not confined to the greenhouses,

Price Need Not Stand in the Way

Don't let the question of price prevent you from owning a SPRAMOTOR and getting better crops. We make a SPRAMOTOR as low as \$6, and from that all the way up to \$400. Our \$6 outfit is as good value in proportion as the \$400 machine. There's a

Spramotor

It isn't a SPRAMOTOR unless we made it

for every need—the small farmer and the thousand-acre man. The knapsack outfit at the left is all high-grade and sprays at high pressure. We guarantee it to spray paint, whitewash and chemicals. The SPRAMOTOR is all brass, with dashing agitator around screen, automatic plunger, brass ball valves

and patent hand valve. In galvanized or brass five-gallon tank.

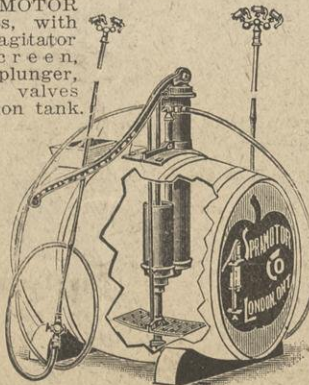
Barrel outfit consists of all-brass No. 2 SPRAMOTOR, with two 10-foot lines of hose, couplings attached, patent hand valves, two bamboo extension rods with brass cupped ends and patent drip guards, two double-nozzle clusters, complete, mounted on 50-gallon cask. Can be used for all kinds of work.

FREE Write us giving some idea of your spraying needs. In return we will mail you without charge a copy of our valuable illustrated treatise on Crop Diseases, also details of a SPRAMOTOR best suited to your requirements.

Made in Canada

No Duty to Pay

SPRAMOTOR WORKS - 2715 King St., London, Can.



but comprises one of the finest farms in the district, which also is well managed. Cattle and horses are of the best kind, with all modern equipages to run a farm successfully. Barnyard manure is the principal fertilizer for the greenhouses, hundreds of tons being used. A fine collection of pheasants and peacocks forms one of Mr. Wright's hobbies. The visit was enjoyed by the gardeners. Mrs. Wright, at the close of the outdoor inspection, entertained the visitors to refreshments. The vegetable growers expressed their appreciation of their enjoyable afternoon.—A. V. Wain.

The Poultry Yard

F. C. Elford, Central Experimental Farm, Ottawa

During July, the work on the poultry plant is comparatively light, but important. The success of the year's work depends to no small extent upon the ability to rear to maturity the chicks that have been hatched and brought thus far. During this period, attention should be given to the marketing of broilers, old hens, green ducks, and the summer's egg supply. It is also the time when mites and lice thrive best and when cleanliness is most important.

Every care should be given the growing chicks, not that they should be pampered, but they should be well fed and given range on "sweet soil." The feeding need not be of such a nature that it requires a great deal of work; have some system but make it simple. Use hoppers into which mixed grain may be put, and if you have milk be sure that the chicks get all they want. With milk, extra animal food will not be required. See that the hoppers are kept filled, and if you wish to give an occasional moist mash, all right; but, if the chicks are doing well and have a good start, the hopper feed will be sufficient.

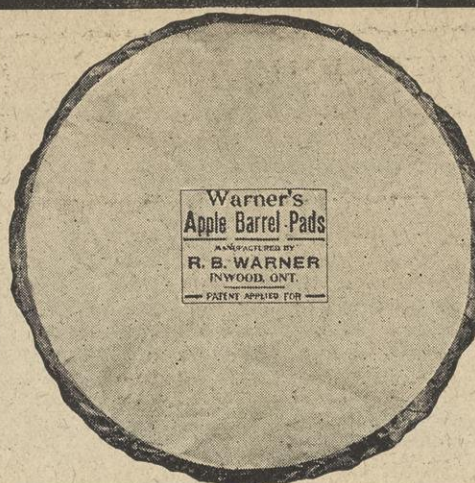
If chicks were hatched in June, get them on to fresh ground and give them extra care and feed. In addition to the hoppers, see that they have every day a moist mash—all that they will eat up clean in about half an hour. If it can be avoided, do not let the late chicks run with the larger chicks; see that the quarters are kept clean, and watch for head lice.

If all the old hens were not marketed in June, dispose of them now; if they belong to the American breeds, they are not likely to lay many eggs during the summer. It is a good plan to cull out from last year's pullets the birds that you do not intend to use for breeding purposes next year; see that they are well fleshed before they go to market.

Dispose of as many as possible of the cockerels that are large enough to sell as broilers; towards the end of this month the prices will be lower; cockerels which cannot be profitably sold should be kept to sell as roasters. Early selling cuts down the expense of production, gives more room for the pullets, and leaves the market freer in the fall for the roasters that have to be sold at that time of the year.

No matured male should be allowed to run with the laying hens during the summer. If they were not killed at the close of the breeding season, they should be done away with now. Do not continue to produce fertile eggs that spoil so readily this hot weather. During this warm weather, gather the eggs two or three times a day. Keep the broody hens off the nests. Break sitters by putting them in a feeding crate or swinging coop. Keep eggs in a cool place, and market two or three times a week.

Get the young chicks into some growing crop that will provide shade, green feed and good scratching ground. Colony houses



Protect Your Fruit

Every barrel of apples is bruised to a greater or less extent in heading. You know what this means—it causes quick rot, thus spoiling the attractiveness of the face and so depreciating the value of the whole barrel of apples.

WARNER'S APPLE BARREL PADS

placed in each end of the barrel holds the apples firm and absolutely prevents them from being bruised when heading in and shipping. It costs little and pays big. Send your name and address for sample and prices.

R. B. Warner, Inwood, Ont.

Aug. 26 - Canadian National - Sept. 11 - Exhibition -

Empire Federation Spectacle, 1,200 performers; 10 massed bands. Glorious pageant, symbolizing Imperial solidarity and power. Mammoth scenic reproduction of the British Houses of Parliament, Westminster Abbey and the War Office.

THE WORLD AT WAR,
ANMER, THE KING'S HORSE, PARADED DAILY.

Government exhibits; superb showing of live stock and agricultural products; acres of manufactures.

Aug. 26 - TORONTO - Sept. 11

THE oldest line of steel beam plows in the Dominion, made in the old Wilkinson Plow Co's factory, by old Wilkinson Plow Co. experts—every one of them men who know their business. It is the standard line of plows and includes 25 or more styles to choose from. U. S. S. Soft Center Steel Moldboards, highly tempered and guaranteed to clean in any soil. Steel beams, steel landsides and high carbon steel coulter. Clevises can be used either stiff or swing. Each plow is fitted especially with its own pair of handles—rock elm, long and heavy and thoroughly braced. The long body makes it a very steady running plow. Shares of all widths—specials for stony or clay land.

General purpose, light, medium, and heavy, side hill, sod, drill or one horse plows

The plow shown turns a beautiful furrow, with minimum draft and narrow furrow at finish. Ask for new booklet.

The Bateman-Wilkinson Co., Limited
Symington Avenue, Toronto Canada

Wilkinson Plows

Repairs for all Wilkinson Plows

THE WESTERN FAIR LONDON, CANADA September 8th to 16th, 1916

FRUIT and FLOWERS given special attention in this year's Prize List. A "County Special" of \$50.00 for fruit open to any county in Ontario. Excellent programme before the new steel grand stand twice daily.

Special Railway Rates

PRIZE LISTS, ENTRY FORMS, and all information regarding the Exhibition on application to the Secretary.

W. J. REID, President

A. M. HUNT, Secretary

CLASSIFIED ADVERTISEMENTS

Advertisements in this department inserted at rate of 3 cents a word for each insertion, each figure, sign, or single letter to count as one word, minimum cost 30c., strictly cash in advance.

SEEDS.

YOU WANT "Reliable Seeds," get our Seed Price List and Save Money. Morgan's Supply House, London.

REAL ESTATE

ALL KINDS OF FARMS—Fruit farms a specialty. Write for Catalogue. W. B. Calder, Grimsby.

FARMS—All kinds—Fruit, stock, grain or dairy farms for sale. Also have clients with good city property who would exchange. H. W. Dawson, Brampton, Ont.

SPRAYING.

SAVE MONEY—Get our Spraying and Garden Supply Catalog. Morgan's Supply House, London.

BEEES.

CARNIOLAN, GOLDEN AND THREE Banded ITALIANS. Bees by the pound, Nuclei. Ready to go April 1st. Write for price list. C. B. Bankston, Buffalo, Leon Co., Texas.

FOR SALE—Untested Golden Italian Queens, 60c each. J. F. Michael, Winchester, Ind., U.S.A.

ITALIAN BEES AND QUEENS as advertised on page 181. Catalogue free. Deroy Taylor Co., Newark, N.Y.

BEST THREE Banded QUEENS at lowest prices, after June 1. Also Bees by the pound. Satisfaction guaranteed. Send for circular. J. H. Haughey, Berrien Springs, Mich.

BEEES—Per pound, \$2.15; per frame, \$2.35; queen, \$1.00. Comb foundation, light brood or extracting, per pound, 60c. Langstroth hives and frames, painted and empty (new), \$1.60 each. Address Aurora Apiary, Aurora, Ont.

FOR SALE—Italian queens from the best honey gathering strains — untested queen, 75c; 6, \$4.25; 12, \$8.00; tested queens, 1, \$1.25; 6, \$7.00; 12, \$12.00. Robert B. Spicer, Wharton, N.J.

GOLDEN ITALIAN QUEENS—Bred from a strain of great honey gatherers. Gentle and prolific. Untested—1, 75c; 6, \$4.25; 12, \$8.00; 50, \$32.50; 100, \$60.00. All orders promptly filled and safe arrival guaranteed. L. J. Pfeiffer, R.F.D. No. 15, Los Gatos, Cal., U.S.A.

NOTICE—Gray Caucasian Queens. Their superior qualities are early breeding, great honey gatherers, very prolific, very gentle, great comb builders, give better body to honey, very hardy, will work when other bees stay in hive, good winterers, the best all-purpose bee. Give me a trial order. Select untested, \$2.00; select tested, with wing clipped, \$3.00. Fay L. Barber, 290 State St., Louville, N.Y.

BEE SUPPLIES.

BEEKEEPERS—Please write for our Catalog. Morgan's Supply House, London.

1,000 GUMMED HONEY LABELS, two colors, any wording, for \$1.30. Catalogue free. Eastern Label Co., Clintonville, Conn.

along the side of the root field or in the corn patch cannot be beaten. If neither is available, get the chicks into the orchard, into a clump of trees, or if you have no shade, provide some. The hot sun is disastrous to young chicks and ducks.

Early this month is a good time to plough up the runs and sow green feed, such as rape. This can be sown broadcast in the same manner as buckwheat, and it is a splendid green feed for the chicks in the fall.

Fruit Crop Conditions

The July Fruit Crop Report of the Fruit Branch of the Department of Agriculture, Ottawa, contains the following information regarding the condition of fruits in all parts of Canada:

Apples: In western Ontario there will be a light apple crop and much of the fruit will be of poor quality. East of Toronto, Spies are light, but on the whole indications point to a crop nearly medium. Duchess and Wealthy promise a heavy crop in eastern Ontario. Fameuse and McIntosh will be a full crop where orchards have been sprayed. The total crop in British Columbia is estimated as slightly larger than last year. Nova Scotia reports two-thirds of an average crop or slightly over one million barrels.

Peaches: There has been considerable damage from "leaf curl" in Niagara. The crop is estimated at 75 per cent. of last year. British Columbia reports a crop about equal to last year.

Pears: In Niagara Bartlett's are a good crop; Anjou and Kieffer fair and Duchess very light. Prospects are generally favorable in British Columbia.

Plums: There will be a light crop in Ontario. There are practically no Japanese plums except Burbank. European varieties will average a half crop. In Quebec there will be about as many plums as last year. European varieties have set particularly heavy.

Cherries: In Niagara district, sweet varie-

ties will be about 30 per cent. of 1915, and sour varieties 20 per cent. British Columbia reports sweet varieties light and sour varieties a fair crop.

Strawberries: Late varieties will be a good crop in Ontario. Warm weather is badly needed. New Brunswick will also have a large crop of good quality. A similar report comes from Quebec. In British Columbia there will be a decided increase over last year's crop.

Recent Publications

Copies of the following bulletins have reached The Canadian Horticulturist during the last few weeks:

Common Spray Materials and other Insecticides, being Bulletin No. 3, by J. G. Sanders, State Entomologist for the Wisconsin Department of Agriculture. Late Potato Blight in Iowa, Bulletin No. 163, issued by the Iowa College of Agriculture. "Potato Diseases," Bulletin No. 140, issued by the Pennsylvania State College. Vegetable Tests on Sandy Soil, Bulletin No. 136, issued by the Oregon Agricultural College, Corvallis, Ore.

TRADE MARK

Wilkinson Climax B

REGISTERED

**Ensilage and
Straw Cutter**

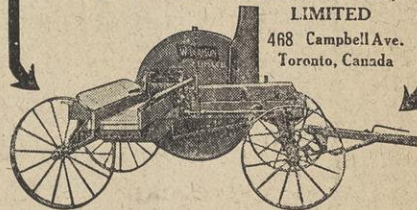
Our "B" machine, built especially for the farmer. A combination machine—it will cut and deliver green corn into the highest silo or dry straw or hay into the mow. 12-inch throat, rolls raise 6 inches and set close to knives—solid, compact cutting surface. Can change cut without stopping. Can be reversed instantly. Direct pneumatic delivery. Knife wheel carries fans. No lodging, everything cut, wheel always in balance. Steel fan case.

Made in two styles—mounted or unmounted. We also make large type machine for custom work.

Ask your dealer about this well-known machine and write us for new catalog showing all styles.

THE BATEMAN-WILKINSON CO., LIMITED

468 Campbell Ave.
Toronto, Canada



Peerless Poultry Fencing

A real fence, not netting. Strongly made and closely spaced, a complete barrier against animals of any kind. Keeps the small chicks confined. They can't get through. Does all and more than is required of a poultry fence.

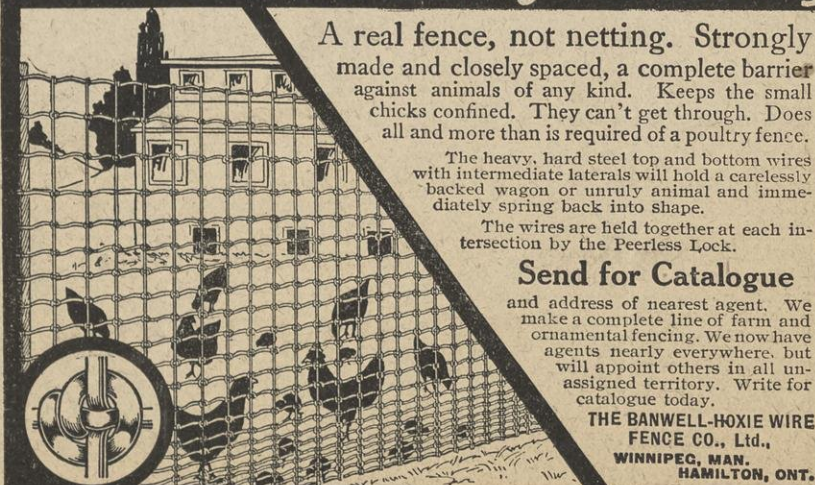
The heavy, hard steel top and bottom wires with intermediate laterals will hold a carelessly backed wagon or unruly animal and immediately spring back into shape.

The wires are held together at each intersection by the Peerless Lock.

Send for Catalogue

and address of nearest agent. We make a complete line of farm and ornamental fencing. We now have agents nearly everywhere, but will appoint others in all unassigned territory. Write for catalogue today.

**THE BANWELL-HOXIE WIRE
FENCE CO., Ltd.,
WINNIPEG, MAN.
HAMILTON, ONT.**





We have a large stock of all sizes

FLOWER POTS

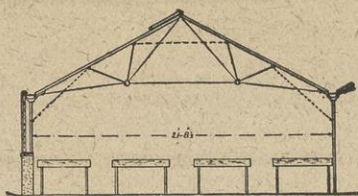
FERN OR BULB PANS

6 3/4 AZALEA POTS
and Rimless Pans

Orders Filled Promptly.

Send for Prices

THE FOSTER POTTERY CO., Ltd.
HAMILTON, ONT.



STYLE C

This is a New Model for 1915, the result of fifteen years' experience in Greenhouse construction for Canada.

Dotted lines show location of wind-ties that positively prevents vibration of the sash. Supplied in widths up to 25 feet 2 1/4 inches from post to post.

KING CONSTRUCTION CO.,
40 Dovercourt Road Toronto.

FRUIT MACHINERY CO.

INGERSOLL, ONT.

Manufacturers of the Ontario Power Sprayer Model 2-B, the handiest of them all. Engine fills the tank. Also a complete line of Apple Evaporating Machinery and power evaporator equipment. Our complete power systems for evaporating as we install them are practical, sanitary and labor saving.

Write for free illustrated catalogue on spraying and evaporating.

Book of Preserving Labels Free

Send us a red ball trade mark cut from
a bag or carton of

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and we will send you a book of 54 gummed and printed labels for your fruit jars. LANTIC SUGAR is best for every kind of preserving. Pure cane. "FINE" granulation. High sweetening power. Order by name from your grocer in our full weight original packages.



100-lb Bags

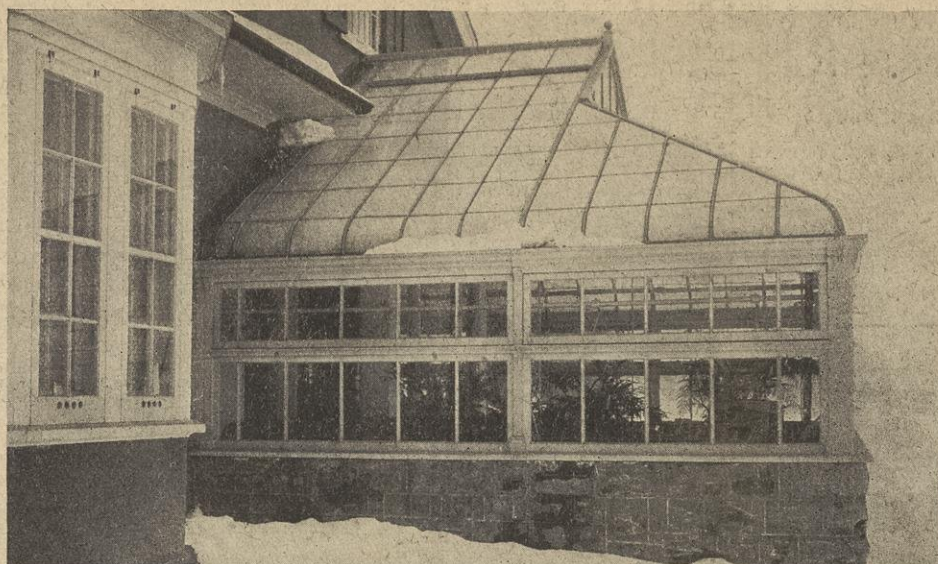
10 and 20-lb Bags

2 and 5-lb Cartons

"THE ALL-PURPOSE SUGAR"

Atlantic Sugar Refineries Limited, Power Bldg. Montreal

*Residence
Conservatory
of
A. D. Miles*



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of Darling
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This Conservatory Brings Summer Land to the Long Dreary Winters at Copper Cliff, Ont.

COPPER CLIFF, you may recall, was founded by the Canadian Copper Company. This conservatory adjoins the residence of Mr. A. D. Miles, President of the Company. Located, as it is, well up into the north country, the mercury, so 'tis said, at times shrinks down to 50 below.

In Winter it is one dreary stretch of snow for months.

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All the materials for the steel frame, as well as the cypress wood work, were cut and fitted at our St. Catharines fac-

tory, so that when they reached Copper Cliff it was simply a matter of assembling them.

As a matter of fact the possessing of one of our conservatories or greenhouses is largely devoid of the usual annoyances and vexatious delays so incidental to practically all building.

Knowing this you will doubtless feel very different about entertaining such an expenditure.

As an interesting preliminary to your decision, send for our Two G's Booklet telling of Glass Gardens, and Giving a Peep into Their Delights.

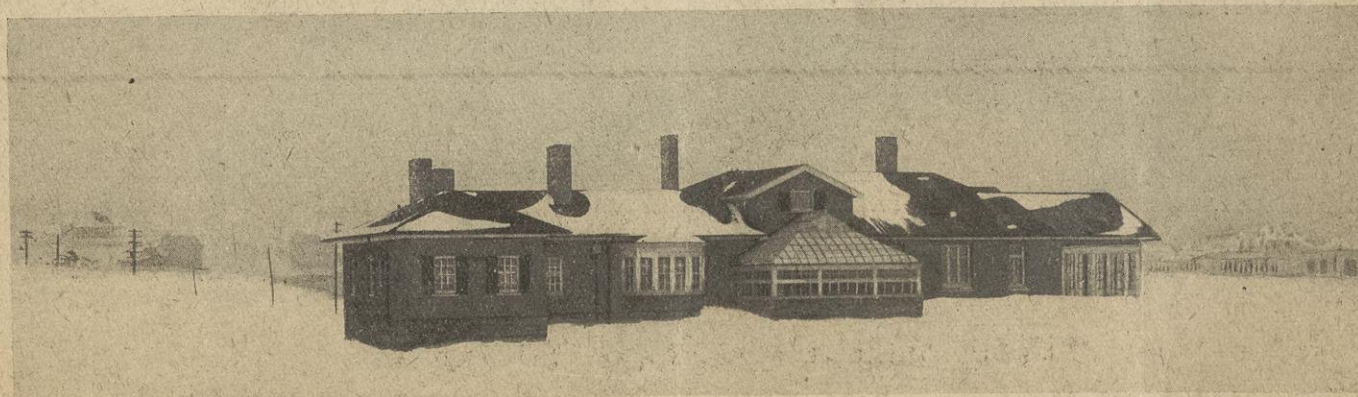
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Greenhouse Designers and Manufacturers

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