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# THE CANADIAN HORTICULTURIST & BEEKEEPER

Vol. 27, No. 10, October, 1919  
\$1.00 Per Year

TORONTO, ONT.  
Address all Correspondence to Office at  
PETERBORO, ONT.



# Ontario's Good Roads Organization

**L**OCAL self-government, in which road management plays an important part, has reached a most gratifying stage of development in the Province of Ontario.

**O**WING to the great interest that has been taken in the Good Roads Movement in Ontario, and in order that Municipal Councils and the Highways Department may work together more efficiently for the common welfare, the Department of Highways believes it essential that the people of this Province should have the leading features of the Good Roads legislation placed clearly before them, and that all should be informed as to the methods of municipal and Departmental co-operation in this important matter.

**T**HERE has been some misunderstanding in the public mind. This has been due in some cases to extreme proposals of well-intentioned people, which have been given wide publicity. One of these proposals has been that the Ontario Government should at once build a great cement-concrete Highway across the Province at a huge expense. Such proposals as these, and many others, have not been approved by the Government and are not part of the policy.

**T**HE people of Ontario have reason to be especially gratified with the good roads system as now organized. This system is not one that has been framed in haste. It has been the development of years of varied and wide experience—not only in the location of roads, but in types of roads, and many features of road-building.

**T**HE Councillors of Ontario have been consulted in every stage of this development. They have expressed their wishes and opinions through their township and county councils, through the Good Roads Association, with which many of them are identified, and through their petitions and deputations to the Department from time to time. It has been the aim of the Highways Department to reflect in its policy the desire of the rural people of Ontario in road construction.

**T**HE same policy of Good Roads which is being developed in Ontario is largely similar to the policy that has been successful in many of the

Eastern States, such as New Hampshire, Maine and Massachusetts.

**T**HE Department realizes that good roads are built as much by means of public opinion and goodwill as out of gravel and stone. We have, therefore, planned to place before the Councillors of Ontario, who have so much at stake in this matter, through a series of announcements in the rural papers, details of the Government's Good Roads policy. From year to year this Department has spent considerable sums in publications, holding meetings, exhibits, etc., and yet we have only been able to reach a percentage of the homes.

**W**E have therefore adopted this method as being the least expensive and most effective means of clearing up some misconceptions that have been found to exist; and through these announcements to secure the suggestions and opinions of the councillors and ratepayers of the Province with whom it is the Department's desire to work in the best interests of all.

**A**LL rural roads are township roads. Therefore, all Provincial road expenditure is to aid township roads. The body responsible for their management, whether township council, county council, or Provincial Department, does not affect the value of these roads to the people of the townships through which these roads pass. Subsidies to county roads and the construction of Provincial Highways, constitute the most effective scheme of aid to township roads. Provincial highways and county roads are the market roads of the Province.

**F**ROM the inception of the Ontario Highways Department, special attention has been given to the encouragement of "market roads," those radiating from local market towns and shipping points, for the benefit of farm production; and counties which have been operating under the Highways Improvement Act for a few years have shown most gratifying progress in that respect. It is a well-known axiom, however, that "roads must be built for the traffic they have to carry"; and the cost is necessarily proportionate to the strength and dimensions of the road; in other words, proportionate to the traffic.

This short series of announcements will, therefore, refer particularly to:

1. *County Roads.*
2. *Provincial Highways.*
3. *Traffic and Provincial Aid.*

## Department of Public Highways, Ontario

HON. F. G. MACDIARMID,  
Minister.

W. A. McLEAN,  
Deputy Minister.



## The Canadian Horticulturist

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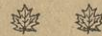
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# The Canadian Horticulturist and Beekeeper

(See Pages 245-250)

(See Pages 245-250)

Vol. 27

TORONTO, OCTOBER, 1919

No. 10

## Orchard Insects in Ontario in 1919

Prof. L. Caesar, O.A.C., Guelph, Ont.

**B**Y far the most destructive orchard insects this year have been the codling moth and the pear and cherry slug. The cigar case-bearer and the bud moth were abundant in many localities, but the amount of damage caused by them was much less than that caused by the first two insects mentioned. The San Jose Scale caused very little loss; not having had time to re-infest orchards severely since the winter of 1917-1918, which destroyed fully 90 per cent of the scale. Fruit-growers should not, however, be deluded by the idea that this insect has disappeared. There are still a few scales left in almost every orchard where it had been abundant, and in another year or two these will increase sufficiently to be a serious menace. Now is the time for anyone who has found this pest in the past to annihilate it in his orchard. One thorough application with lime-sulphur, one gallon to seven gallons of water, on a warm sunny day late this fall or next spring will do the job.

In the early spring aphids were very abundant on apple trees, but about June 1st they had almost completely disappeared and have not been abundant since. The cause of the disappearance seems to have been largely the many drenching rains in May which washed them from the trees. The weather otherwise appeared to be favorable to their increase.

Pear Psylla, which was so abundant and destructive last year as to prevent whole orchards from bearing this year, was very noticeable in the early spring and in fact all through May, but fortunately weather conditions or other natural factors caused it gradually to lessen in numbers and do comparatively little damage. It remained long enough, however, to show that a delayed dormant spray with lime-sulphur of about the strength of one gallon to 8 or 9 gallons of water, followed by the use of nicotine sulphate 40 per cent in the codling moth spray would save the pear orchard from serious loss. Pear growers should spray every sea-

son for this insect as an insurance against heavy loss.

The cigar case-bearer and the bud moth, mentioned as numerous this year, yield fairly readily to spraying especially to the applications just before the blossoms burst. Any person who sprays his orchard year after year need not fear these insects.

The pear and cherry slug, the slimy, blackish insect that works on the surface of leaves of pears and cherries, was very abundant again this year, and left thousands of trees in the province without a single green leaf. There are two broods of the insect, the first in June and July, and the second in August. The first brood did almost all the damage this year, just as it did last year. Parasites, especially egg parasites, seem to have been the main factor in preventing injury from the second brood. Most of the loss from this pest this year was in uncared-for orchards, as nearly all intelligent cherry and pear growers have now made a practice of spraying their

cherries and pears. Some growers, however, who suffered loss from the insect last year were thoughtless enough not to spray for it this year. There are few insects more easily killed than this. One thorough application about the middle of June with arsenate of lead and water will control it. Many growers are not aware of the danger to their trees from the destruction of the foliage by this or any other pest. It is a very common thing for cherry trees that have lost their foliage as early as the end of July to die from winter killing. We have seen thousands of sour cherry trees thus killed. There are three great pests of sour cherries—leaf spot or yellow leaf, fruit flies and slugs—and all three can readily be controlled by spraying. Directions for spraying cherries will be given clearly in next spring's Spray Calendar, which will be available to everybody free of charge.

The codling moth this year was favored by the long period of dry hot weather. So abundant has it become



Vegetables are grown extensively in many of the young orchards of British Columbia and bring in large returns. A crop of onions on the Taylor Ranch, Kelowna, is shown.



in the warmer parts of the province that in some unsprayed orchards almost every apple is wormy. Other things being equal, it regularly happens that the smaller the crop of apples the more difficult this insect is to control, because in such a case there are more worms to attack each apple. Consequently, even some well sprayed orchards this year have had nearly 50 per cent of wormy fruit. Such orchards received no later spray than the regular calyx application. Had it been foreseen that the insect would have been so destructive, an additional spray about three weeks after the blossoms had fallen would have done much good by destroying most of the worms which entered the side instead of the calyx. The destruction of these would have greatly lessened the numbers of

the second brood, which did nearly all the damage. The regular codling moth spray will readily control all calyx-entering worms, but will not kill all those that enter by the side. Fortunately orchards that are well sprayed year after year, even though they do not get any later spray than the regular one just after the blossoms fall, are almost free from injury from this insect. There are many examples of this fact in the Niagara and Burlington districts, showing the cumulative benefit of good spraying.

In conclusion, it may be interesting to mention that with very few exceptions the orchards that are bearing good crops this year are those whose foliage was green and vigorous last year as the result of good spraying and cultivation or manuring.

## Fall Plowing

W. S. Blair, Dom. Expt. Station,  
Kentville, N.S.

After the apples are harvested there is generally a slack time when orchard plowing can be done to advantage. Experience has indicated that shallow plowing is advisable in orchard practice and that it is unwise to go deeper than five to six inches and that the area close to the base of the tree should not be plowed deeper than three or four inches. There is as a rule little cultivation after the first of July, and from that time on even if cover crops are not grown, a natural growth of some sort will have been made. This growth, when turned under affords practically as good mulch as if left on the surface, and the fact that the ground has been loosened up tends to prevent as deep freezing as if left compact, for the more compact the soil the deeper will frost penetrate it. Where root killing of trees is liable to occur, it may be wise to leave the cover crop mulch undisturbed as it assists materially in holding snow and as a result will give a better cover than if plowed in the fall. Other than this there does not appear to be any disadvantage in fall plowing as to possible winter injury from root killing.

The great advantage of fall plowing is that a certain amount of work is out of the way for next spring, and should the spring be unfavourable for working land, the discing may be delayed much longer than it would be wise to delay plowing. Early orchard cultivation is of prime importance, and as it is usually necessary to plow once to work under accumulated vegetation, this should as far as possible be done in the fall, thus facilitating early spring work and hastening bacterial activity the next spring.

## Pedigreed Plants

Prof. O. M. Taylor, Geneva, N.Y.

(Q)—Do you believe in pedigreed strawberry plants, and if so would you advise growers to purchase them?

Much depends upon what is behind the word "pedigreed." Some so-called pedigreed plants are little, if any, better than first-class ordinary plants. If we find certain plants with fixed traits, which can be reproduced on different soils, the word "pedigreed" may stand for something. Many growers have plants that do not live up to the claims that are made for them. Plants that do well under one set of conditions may degenerate under another set and under different management.

Red raspberries are propagated by suckers or offsets from the old plant.

## YOUR QUESTIONS ANSWERED

**T**HE Niagara Peninsula Fruit Growers' Association, in co-operation with *The Canadian Horticulturist*, has arranged with leading and experienced, practical fruit growers of the Niagara district to answer questions relating to standard varieties of fruit, that may be asked from time to time. The first set of these questions and answers is published herewith. Questions should be sent to *The Canadian Horticulturist*.

### The Best Sour Cherries.

G. A. Robertson, St. Catharines, Ont.

Has any variety of sour cherries been found to out-class the Montmorency for profit?—T.M.

The Montmorency with us is an annual bearer, a fair-sized cherry, and the tree is a thrifty grower and hardy. The Montmorency in these has a little the advantage of the Early Richmond, which is the second. The other varieties that we have tried are either shy bearers or small fruited, or the tree is not vigorous. The English Morello has been said to outcrop the Montmorency as to size of tree. Here with us in the Niagara district it bears so heavily while young that the tree is stunted and does not make a good-sized tree, and although trees of the same size may compete, still in trees of the same age, Montmorency trees are so much larger that the Montmorency outclasses it.

### Pear Varieties.

Major H. L. Roberts, Grimsby, Ont.

What varieties of pears do you recommend?—A.W.

I would recommend the following varieties in order of ripening. I have not included Keifer, as I grow none, and even if there is money to be made in Keifers, I would still prefer to recommend the Canadian grower (for his own sake in the long run) to help educate the Canadian consumer to eat with his mouth and not his eyes: Giffard, Flemish Beauty (spray carefully for scab), Bartlett, Howell, An-

jou (blows down rather easily, especially on dwarf), Duchess, dwarf; Winter Nelis (tree a poor, straggly grower). These are all pretty good blight resisters with me.

### Qualities of Gooseberries.

W. F. W. Fisher, Burlington, Ont.

What varieties of gooseberries would you recommend for the Burlington and Niagara district? Are they a profitable crop?—H.F.

The old standard varieties, Downing and Jocelyn, are superior to the newer introductions. The Whitesmith is probably the coming gooseberry, since fungus is so readily controlled by spraying. The gooseberry is the least inviting of our fruits from a point of profit—they sun scald before maturity; pickers fight shy of them; and the price has never been up to a proper level. Growers should insist on a \$2.00 minimum price for 11-qt. baskets.

### Soil for Apples.

H. T. Foster, Burlington, Ont.

What soil is the best adapted for the profitable growing of commercial apples?—H.L.

A rich sandy soil with a clay sub-soil or a good clay loam are, in my opinion, the best suited for apple trees. It is true some varieties do better on some soils than others do. It is very necessary, if the site has not good natural drainage, that the ground be properly underdrained to ensure good healthy trees, and thus give them a chance to do their best. This, along with proper cultivation and fertilizing, should bring success.



# Revolutionizing the Apple Industry

The Story of What Co-operation Has Accomplished in the Annapolis Valley. A Record of Achievement.

THE fruit growers of Nova Scotia are no longer dependent on the markets of Montreal, Ontario and the West for an outlet for their apples. This is the case, although, this year they expect to have for export about 1,500,000 bbls. Some years ago this condition did not exist. At that time they were more dependent on the home markets than now and their product threatened, as their orchards developed, to enter into serious competition with the apples from Quebec and Ontario, both in the markets of Eastern Canada and of the prairie provinces. To-day their crop is marketed largely in Great Britain and as they are more favorably situated, by reason of their cheap water transit, to cater to the markets of the Old World than in any other part of the New World, their chief dependence in future is going to be on their export trade.

The change that has taken place in fruit conditions in Nova Scotia during the past ten years is not easy to grasp. It has been brought about by the growers themselves through the use of that magic key known as co-operation. Ten years ago they depended on the apple operators to find a market for their fruit. To-day, through their numerous local associations and their central, they dominate the trade themselves. Last year, although the crop was a light one, they transacted nearly \$2,000,000 worth of business. This

year their volume of business will be much larger. During June and July a representative of The Canadian Horticulturist spent several weeks in the Annapolis Valley. What he learned while there makes a story well worth telling elsewhere.

## Early Efforts.

The first efforts at co-operation were made through the old Nova Scotia Fruit Growers' Association, when a few growers got together and chartered a couple of steamers sailing out of Annapolis Royal to carry apples to the British market. Even this mild measure of co-operative business aroused the bitter opposition of the "fruit trade." The first effort was a success, however, and was followed by the organization of several fruit companies under the Joint Stock Companies' Act. These, too, were a success from the start, principally because the Old Country commission houses favored the uniform pack of the companies as compared with the packing of the individual growers. The movement spread as its market success was demonstrated and in a couple of years there were forty or fifty co-operative fruit companies operating in the valley.

## Co-Operators Compete.

This looked like a magnificent success. It was so far as it went, but it did not go far enough. The weakness of the purely local organization soon made itself manifest. This was be-

cause these companies began to bid against each other quite as briskly as the individual growers had been doing formerly. Accordingly seven years ago the companies got together and decided that instead of being competitors they would co-operate and market their fruit through one central selling agency. It was this idea which gave birth to the United Fruit Companies of Nova Scotia, Limited. This company now handles one-third of the entire Nova Scotia apple crop and is the largest handler of potatoes in the Valley, the largest buyers of insecticides, fertilizers and seeds in the Maritime Provinces and perhaps the largest purchaser of insecticides in North America. The company is under the official management of Mr. E. H. McMahon, but it was from the secretary, Mr. K. L. Pineo, a leading fruit grower, that the representative of The Canadian Horticulturist secured the following account of the accomplishments of the Nova Scotia growers:

## Mr. Pineo's Story.

"There are at present 43 subsidiary companies in the United Fruit Company," Mr. Pineo said, "and about five in the Valley not connected with our central company. These five outside companies, however, are for the most part just nominal companies formed by ex-officials of the United Fruit Company and are practically one man



While some of the largest apple orchards in Canada are situated in the Annapolis Valley of Nova Scotia, most of the fruit produced in the province is grown in connection with general farming operations. As the orchard areas are largely confined to one part of the province, co-operative efforts have been easier on that account. Orchards near Centreville, King's County, are shown.





A Montreal market gardener who has met with great success is Mr. P. Delsole, a portion of whose celery field at Notre Dame de Grace is here shown. Mr. Delsole grows a very large acreage of numerous varieties of vegetables. (Photo taken specially for The Canadian Horticulturist.)

concerns. They are not so much co-operative as speculative. The Nova Scotia Fruit and Shipping Company, Limited, for instance, does nothing but handle apples. Their supplies are purchased through our United Fruit Companies. Of course, there are speculative buyers all over the district and several large firms have large warehousing facilities. We handle about one-third of all the fruit. In addition we put more potatoes into the Havana market than all other Nova Scotia shippers put together. Really, we control the bulk of the apples as much of the rest is marketed in local or Old Country markets by the growers themselves."

The buying of supplies for members of subsidiary companies, Mr. Pineo informed us, has become an important part of the business of the central company. When this branch of the work was first taken up they met with the usual opposition of local dealers exerted largely on the wholesalers by local merchants. The first great difficulty was to secure a jobber's price on supplies. This was necessary if the business was to be worth while. The combined buying power of the co-operative growers was so great, however, that they could not be ignored and the company has now reached the place where it gets the lowest prices on everything that it buys and in some cases is supplying the dealers who once supplied them. With many commodities they are in a more favourable position to supply local merchants than are the wholesalers. "Farmers have benefitted largely by our buying activities," Mr. Pineo said. "In the local company, of which I was manager for a time, the members actually got their fertilizer for less than it cost the company. The profits on the trade with non-members made this possible."

Mr. Pineo instanced pulp-heads to

demonstrate the savings effected by co-operative buying. Pulp-heads are the heavy circles of card-board which go in either end of the apple barrel to protect the fruit from bruising. The company was just giving its order for the 1919 packing season at the time of our visit. The first price tendered by the Ontario company that finally got the order, was first lowered \$1.15 a thousand and in answer to a telegram was cut still further, the final reduction being \$2.50 per thousand on a 500,000 order. This represents a saving of \$1,250 on one-half of the year's requirements.

#### Dusting Supplies.

"Dusting the orchards has become common in the Valley," said Mr. Pineo, "so our company was naturally interested in dusting-machinery. The company that had local selling agencies throughout the Valley was asking \$225 each for their dusters. Through a big co-operative order we got a duster equally as good which we were able to deliver to farmers for \$129. Dealers were asking 11½¢ per lb. for 90-10 sulphur dust. The United Fruit Company was able to import sulphur that would pass through a screen of 200 meshes to the inch and compound our own 90-10 dust, which was delivered to the farmer at 8¢ a lb. Our supply of dust cost us \$6,600. Had it been purchased through regular dealers it would have cost \$8,600, and yet this is only one of our small side lines.

"We tender on all government bids for insecticides," continued Mr. Pineo, "and have always supplied them. We have shipped government orders as far as Ottawa. Finally, I might add that we carry fire insurance for ourselves and all subsidiary companies at one-half the usual cost."

A word on the organization of co-operating companies may be of inter-

est. The subsidiary companies are organized under what is known as the Farmers' Warehousing Act. A provincial measure designed to facilitate co-operative associations. This form of organization is cheaply effected. These local companies take stock in the central company to the extent of 20 per cent of the stock invested in their local company. For instance, a local, capitalized at \$10,000, would subscribe for \$2,000 of stock in the central company. Until this year not a cent of the stock subscribed by the locals in the central company had been called in. In other words the company has been operating almost a \$2,000,000 business without a single cent of paid up capital. At the last annual meeting, however, the directors voted for a call of 10 per cent on the capital stock subscribed. In the past the stock subscribed has given the company standing at the banks and the business has been financed on directors' notes from local companies when they purchase by discounting open drafts, etc. No credit has ever been refused. The banks were not particularly friendly at first, but they now cater for the business of the United Fruit Companies. The local companies are at liberty to withdraw from the central company any time they please. This apparently loose organization is exactly opposite to the policy followed by the grain handling co-operative concerns in Western Canada and we asked Mr. Pineo if he did not think that more centralized control might be desirable.

"No, we are democratic," he replied. "Our growers know that they have a good thing in this centralized selling agency and they have no intention of injuring us. Every one of the subsidiary companies in the Valley could take in new members right now, so highly is our system valued."

#### Apple-Land

Apples along the highway strewn,  
And morning opening all her doors;  
The cawing rook, the distant train;  
The valley with its misty floors.

Along the highway all the day  
The wagons filled with apples go,  
And golden pumpkins and ripe corn,  
And all the ruddy overflow.

From autumn's apron, as she goes  
About her orchards and her fields,  
And gathers into stack and barn  
The treasure that the summer yields.  
—Richard Le Gallienne.

In Canada Senator Dunlap strawberry seems to have been the most successful.—W. T. Macoun, Dominion Horticulturist, Ottawa.



# Winter Cases and Fall Feeding

G. A. Deadman, Brussels

**I**N my last article I spoke of my preference for a winter case made up, and to hold two colonies. Since then we have packed some 233 colonies, largely in these, but some in singles. After seeing some of those quadruple winter cases, and packing some in double collapsible ones, as well as the singles, I am more than ever confirmed in the preference for those holding two colonies. With covers hinged at the front and cushions over the two colonies, it is so easy to go along behind, lift up the cover, and examine any colony at will.

## An Ideal Winter Case.

But the winter case of the future will not be heavy or cumbersome, but one made with a strong frame with bottom board of light but enduring lumber, and the sides and ends of this mill board, or similar thing made water proof. It comes in large sheets, is extremely light, and very durable. This winter case would be made all of a size. The cover would be nailed to a framework that would be a little higher in front, and would be hinged so that by pulling out the hinge pin they could be taken off easily if one wished to store them separately. A winter case such as this with some asphalt roofing material for the cover would be the case par excellence. The packing remains in it from season to season. An open shed to form a break-wind covered with large roofing sheets of metal, would be the place to house them in summer, and as a break-wind in winter would pay for itself. Who will be the first to make them? A beekeeper who has bees in singles and collapsible cases, has helped me pack for winter at different times. I asked him if he were making again what kind would he use. He unhesitatingly replied "the double." The packing is extremely easy and when colonies are in pairs, which is best for many reasons, there is little or no confusion from loss of location when colonies are thus packed. We should reserve our strength for something different than handling quadruple winter cases, for they are not essential to successful wintering.

## Feeding and Feeders.

Since writing last month we have not only been in the throes of packing, but that of feeding also. We finished about the 10th of Sept. It was not from choice we fed so early, we would have preferred doing it the last of Sept. and beginning of Oct. No one with a hive not larger than a ten-frame Lang-

stroth should feed as early as we did this year. The combination system with the shallow hive below enabled us to do it. What I have to say about feeding will be too late this season to be of value to any one who will ever probably make much of a success at beekeeping. If your bees are not fed when *The Beekeeper* containing this reaches you, I am a little afraid that you belong to the farmer beekeeper class. It is amusing in a sense how this class postpone this work. They seem to just hate to start. I am not surprised altogether, when we consider what it means to one who has not the proper outfit, and does not just know how to go about it.

## The Kind of Feeder.

I expect to have photographs showing how we did it some day, but I will try and make it plain without. Our feeders are simply a box made of 4 in. stuff with paroid for the bottom and holding 20 lbs. syrup. This fits inside of our comb honey supers and leaves a bee space over and around it. Into this box we throw a handful of coarse straw. We simply place one of these on every colony that requires feeding.

## Making the Feed.

To make the syrup we take two barrels that we think hold 600 lbs. honey. We place these on a stand high enough so we can put a honey can holding 300 lbs. or more under one barrel and a waggon with a tank holding 250 lbs., when two-thirds full, under the other. In this tank we have a float, just a

board affair to keep the syrup from splashing. Now at the side of each barrel near the bottom we have about a half inch hole or less. Before we put our sugar in these barrels, we take a sugar bag, cut it down the seams, wash it and spread it over the bottom of the barrels, first placing something near the hole to prevent it being clogged. We put in four bags sugar in each and then poured on the water. After a few minutes we put another bag of sugar in each and then more water. You do not require to weigh either sugar or water. Simply keep plenty of sugar in the barrel and water to cover. In about an hour the ready-made syrup will begin running in a stream into the vessels below. In the course of 24 hours there would be some 700 to 800 lbs. syrup of the right specific gravity and much better than could be made by heating. To hurry matters a little, and to take off the chill we have a tin vessel that will hold, and some to spare, 150 lbs. syrup. This tin boiler affair we place over our gas stove, put in 50 lbs. of water and when boiling or near it pour in a bag of sugar of 100 lbs. We stir this frequently and remove as soon as dissolved. We made at least two lots of these each day. In addition to the can on the waggon, and the other can under the other barrel, we had an extra can to hold the overflow. About an hour before sunset we would run down the waggon load of syrup and nearly as fast as we could go along fill up the feeders on the hives or as much as required. If 20 lbs. was not



Making cement blocks for hive stands in the apiary of G. A. Deadman, Brussels, Ont.



sufficient we fed the balance another night. We had some 80 feeders so by removing those that were not needed we could keep going every evening. By this method feeding over 5,000 lbs. of syrup was not a serious matter. When taking off the feeders we simply gave the feeder and super a knock on the ground, piled them on the waggon and away we went to another.

#### Making the Feeder.

When making this feeder no dovetailing of corners is necessary. The ends can be  $\frac{3}{4}$ -inch stuff, the sides thinner. When nailing on the paroid or asphalt bottom, take a strip of wood, say  $\frac{1}{4}$ -inch square and nail through this into the paroid or asphalt instead of only through the paroid. I say  $\frac{1}{4}$ -inch strips because when you place this feeder on top of the frames, there will be a bee space below. When nailing is done take some melted beeswax and resin and run it around the corners and joints. If you warm the feeders before doing this it will take less wax. The material for this feeder should not cost over five or six cents. I cannot understand how, or why, experienced beekeepers, and others in high places, would ever tolerate, much less to advise, the use of tin pails with holes in covers.

#### How Much to Feed.

There is a wide difference of opinion regarding how much to feed. As W. G. Hutchenson once said, one never can tell. You feed heavy in the fall and fruit-bloom honey the following spring is abundant and the brood nest is honey-clogged and another year one feeds less and no spring honey to speak of and our colonies suffer. While we should give them plenty we should be careful lest we feed excessively and some of it gets into the super next year. I never could understand how those who lift up their brood frames into the super and exchange them around, can be sure of the purity of their honey. Some say feed all they will take, which is very indefinite. I am feeding more every year, but I have not exceeded 40 lbs. all told, which should be ample. Just how much less will depend on local conditions.

The production of apples, pears, plums, cherries, gooseberries, raspberries, and alsike clover seed depends upon the visits of insects to the flowers to distribute the pollen. In many places the wild bees are not sufficiently numerous or active to carry out this work satisfactorily, especially when the weather is changeable, and honey bees are necessary to secure uniform and abundant crops.—F. W. L. Sladen, C.E.F., Ottawa.

## Notes and Comments

J. L. Byer

AT just what time of the season should fall feeding be done, is a question we are often asked by beginners. This is a question that must be decided by conditions in one's locality, for however much abused the word "locality" may be in making excuses for many things, yet without a doubt the term is quite in place in considering the matter of feeding. Some years ago no buckwheat was grown in our home district and at that time we commonly started feeding about Sept. 10th as with no honey coming in after clover was over, brood rearing ceased quite early, and bees were in a condition to be fed at once. With buckwheat blooming and yielding some (not so much this year) all through Aug. and first week of Sept. colonies in many cases have abundance of brood on Sept. 10th and consequently we would not think of feed-

this yard in question, the weather was very warm and the bees took the food rapidly. In some cases when I went to take off the feeding pails given two days earlier, the bees had built combs from the roof of the hive which was placed on top of empty super given to accommodate the pails. In such cases it was of course not necessary to weigh the colony to see if they had plenty of stores or not.

#### The Buckwheat Crop.

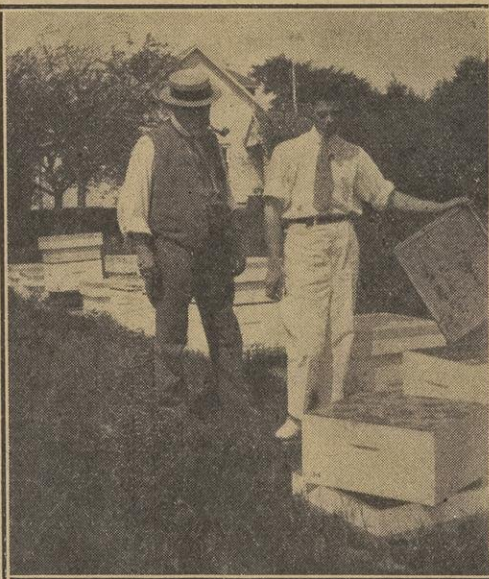
Reports from the different sections where buckwheat is grown show conclusively that the crop is light from that source owing to continued cool weather all through August. But regardless of the short crop, the price of buckwheat has fallen off considerably owing to lack of export demand and quite a quantity held over from last year. No buckwheat is grown in vicinity of our apiaries around Coldwater and none to speak of around Fenelon Falls and in these three apiaries we have a heavy feeding bill. In apiaries around home, although surplus from buckwheat was not heavy, yet we secured enough to pay for all sugar necessary to feed all the bees both at home and north yards, showing once more that one year with another a clover-buckwheat locality is as sure as any, even if some years we do not get quite as white a honey as they do where no buckwheat is ever grown.

#### Converting Hives.

A correspondent asks if he could not take his standard 10-frame L hives and make them over into cork packed hives for wintering outdoors a la Dunn. Nothing in the way to prevent him doing this, only he would of course not get one of the things Mr. Dunn emphasizes so much—extreme lightness in a packed hive. Mr. Dunn uses very thin material for both inner and outer walls of his hive, and aside from the extra weight of the  $\frac{7}{8}$  stuff used in standard hives, my correspondent could without doubt, with some little variations in methods of procedure, make a cork packed hive all right, using his regular hive bodies for inside walls.

#### Spacing of Frames.

A good friend in Winona who has a returned son thinking of going into beekeeping, asks why so many beekeepers use hives having bee space under the frames when all the standard goods made by supply houses have the spaces on top instead. He also refers to the spacing of frames as



A corner of the apiary of Jean J. Lemire, St. Isidore, Que. Mr. Lemire has been conducting experiments with the aluminum honey comb.

ing them till bulk of the brood is hatched out, for where that brood is, there we want to have winter stores later. I have just returned from feeding up the Fenelon Falls yard, starting the feeding on Sept. 16th and feeding till Sept. 29th, as many colonies have a lot of brood in all stages at this date yet, Sept. 23rd. Some may ask, will the bees fed so early not start brood rearing and use up a lot of food before going into the cellar. I am not much afraid of that happening for the most of the colonies have no place for brood rearing so cannot do very much in that line before November.

During the five days I was feeding



well, all factory goods having frames spaced  $1\frac{3}{8}$ , while so many beekeepers prefer the  $1\frac{1}{2}$  inch spacing. The only way I can explain these things is on the question of individual preference, and personally I prefer the wider spacing of frames, although I have one yard all on Hoffman frames and of course I have to use as they are built for. Even then I could not help spacing them wider in the extracting supers, with the result that anyone can at once guess—it means a thorough scraping of the combs before they will space up to  $1\frac{3}{8}$  again. But with loose hanging frames one can space as he wishes and personally I think I can handle the frames faster and kill less bees with the wider spacing, and I am also inclined to think that Mr. Dadant is right when he claims that there will not be as much swarming with the wider spacing as bees have more room between the combs—anyway, my experience seems to point that way and we have both kinds of spacing in our different yards, having bought so many bees in the past in different kinds of hives.

#### Bottom Spacing Preferred.

As to spacing on top of frames versus at bottoms, here again I prefer the method that is not orthodox according to practice of supply men. Objections to top spacing with bottoms of combs flush with bottoms of hive or super bodies are that if a super is set on anything, if there is the least bit of wax or other matter fast to bottoms of frames they at once become standing instead of hanging frames. Then again, if hives are made of lumber not properly seasoned (and this happens all too often) you will have standing frames by the wholesale and I know of nothing that will try your patience more when in a hurry than such a condition. But after all is said pro and con, the practical man can use either form of spacing and get just as much honey in one case as the other, so after all it resolves itself into a case of individuality. With no practical difference in results to be obtained, naturally the beginner is well advised to use standard goods in the matter of top or bottom spacing, and if he prefers the wide spacing of frames, it will be easy for him to be accommodated.

#### The O. B. A. Convention.

Have just learned that the Convention will be held this year on Nov. 11th to 13th, dates much earlier than for past few years. This of course is brought about by reason of the Horticultural Show being held once more. Naturally many who attend the Show will also wish to attend the convention, and as a number of other Associations are also holding their conventions at

that time, each association should in a measure help the other along in the matter of attendance. Have had no particulars as to programme or place of meeting at date of writing, but I have no doubt but that we will have a good attendance even if crop was light. Beekeeping to-day has more enthusiastic adherents than at any other time in history if one can judge by the many inquiries in regard to the pursuit, and aside from that, one poor season does not keep the old-timer from coming to the Convention. So we reasonably expect about all the "old-timers" and also a large number of enthusiastic beginners.

#### Valuable Lessons.

Surprising what bees will stand sometimes and yet not perish even if at other times they will die and we cannot see why it happened. Last fall late in October we brought two colonies home to destroy the bees as we found them infected with American Foul Brood and had no suitable full combs of honey to put them on. The hives were placed by themselves, 200 yards or more from any other bees and one day about Nov. 1st we thought of smothering the bees and melting up the combs later on. Weather was mild for time of year and as colonies seemed to be quite populous I suggested that we shake them together in one hive, starve them for a while and then see if they would draw out foundation and store sugar syrup in the combs for winter. We shook them out and left them for four days on empty frames. My son then went north on annual deer hunt and I at end of four days gave them five jumbo frames filled with foundation, and inverted pails of syrup over frames packing all securely on top. They took syrup slowly as weather was cool and frosty, and after about a week I looked in and found that bees had clustered near bottom of the frames and drew out the foundation there instead of at the top, and the cluster hanging there continually had caused the foundation to break from top of frames and crumple down. Frames were well wired vertically and foundation had slipped down on wires. Anyone can imagine the mess they were in.

However, I went at them and shook off the bees in the hive—weather too cool for bees to fly at this time. I gave them five drawn combs and fed syrup after that date, and they actually wintered nice and clean. Of course sugar syrup was fed and I doubt if any other liquid food given at that season of year would have answered the purpose.

These bees gave us another lesson—a lesson by the way worth learning as it proves that oftener than we think

two queens may be in a hive and also gives the value of clipping to prove out certain matters sometimes. As already stated, the bees from the two colonies were shaken together in the fall, and as both to my knowledge had old clipped queens, this spring I decided to give them a young Italian queen. First of all of course we hunted out the old queen. We soon found the clipped queen, killed her, and in due course introduced or tried to introduce a young Italian. After a few days we looked to see how things were going and found our Italian queen in front of the hive dead. I got a young queen of last year's rearing out of a nucleus that appeared to be too weak to stand the spring weather and opened this colony again to cut out any queen cells that might be started before trying to introduce queen No. 2. Imagine our surprise to find instead of queen cells, brood in all stages just as we had left them a week or more before. Needless to tell you, a glance over the combs and we found another clipped queen still doing business on the old stand.

#### The Aluminum Comb.

The second aluminum comb sent me from Los Angeles was readily accepted by the bees and I can only repeat what I said in a former issue of this journal that they look good aside from the matter of cost, which under present conditions is prohibitive as I see the matter, for Canadian beekeepers to use.

### Putting Bees in Cellar

J. D. Evans.

My system of putting bees into the cellar is very simple. My hive bottoms are fastened to the hives with staples and never loosened. My quills are sealed fast to the hives. My entrances are one and one-half inches high, and the full width of the hives. This I have found all right in my cellar during the twenty-five years I have wintered bees there. The entrance block is two inches wide and one inch thick, and as long as the hive is wide, and is kept in place by a picture nail. All my man has to do is to remove the cover and shove the entrance block across the hive, so no bees can get out, pick up the hive and carry it into the cellar. There are no steps to go down. The bees are piled on an old half-storey hive—five in each pile. An entrance block is placed under the first hive on the stand at the back, so as to tip the hive a little to the front.

That is all there is to putting the hives in the cellar. My man will carry them all in, and pile the covers in the honey-house, in one day and be done early (123 hives). The entrance blocks are removed each time a pile of five hives is completed.



# A Million Pounds of Honey

H. W. Sanders, Sturgeon Creek, Man.

ONE million pounds of honey is the estimate of the Manitoba crop given out by the Department of Agriculture, which is a tolerable weight for an infant ten years old or thereabouts.

Here in the West we are often accused most justly with inflating the real facts of development in order to boost our own locality, but when every exaggeration has been pared down to the bare truth, and every falsehood exploded, there still remains a great body of legitimate and accurate statements to bear witness to the wonderful story of the settlement of the Great West during the last ten years. The first era of colonization is rapidly giving place to permanence in both town and country, and just as the cities are replacing the frame buildings of pioneer days with fireproof skyscrapers, so the farm is growing from the speculative grain-robbery to diversified systems of rotation farming, and the older arts are being introduced as far as the natural handicaps of soil and climate will permit. A week ago at the Winnipeg show the writer had the pleasure of seeing a long table of fine apples, all Manitoba grown, competing for the prizes offered, and at the Agricultural College they harvested plums by the bushel. In place of large imports of poultry and dairy products the prairies have begun to swing into the export trade, and year by year the positions that were taken by storm in the Great North-West are being consolidated into the impregnable economic stronghold of the mixed farm.

The production of honey still fails by a great amount to satisfy the enormous demands, intensified as they have been by the shortages of sugar, and beekeepers find they have no trouble to dispose of their crop. In fact in most cases they have only to wait and customers come to their doors. Bees find a ready sale at from \$15.00 to \$20.00 per hive in the spring, and with a reasonably good season, there is no department of the farm that pays better, considering the time and labor involved.

## Wintering.

The large problem in Western bee-keeping is wintering the bees, and it is undoubtedly here that so many failures occur. When people come around to enquire as to bee-keeping possibilities, I always ask them "Where do you propose to winter them?" When one can be sure of having from 75 to 90 per cent. of his bees alive and building up on May 1st, he may feel that for him the problem is solved. Occasionally we hear of people wintering 100 per cent. in Manitoba, but not often, and we frequently hear of people losing 100 per cent. Between these two extremes are all variations, but as stated above from 75 to 90 per cent. can be considered as good wintering. The main factors in cellar wintering are an even temperature, and a dry but well ventilated cellar, and of course strong colonies with an abundance of stores.

Professor Sladen's plan of feeding ten pounds or so of sugar syrup late in fall is an admirable one to follow in this severe climate. The bees are often the better part of five months without the opportunity of getting a cleansing flight, and the sugar syrup serves their needs during the greater part of this time. Feeding so late ensures it being stored right in the centre of the brood-nest as the last brood leaves vacant cells there, and the fact that sugar syrup leaves so little "ash" in the bees' interior

keeps the creatures quiet and comfortable where honey, especially the aster honey of late fall, might give them that "pain under the pinney" evidenced by a restless buzz in the cellar, a nasty purging mess when set out, and too often by a dead or enfeebled colony just when the first flowers of spring are offering their nectar.

## Western Conditions.

The summer season in Manitoba is so different from those east and south that our management has to vary considerably from



A Hive in a Polish Bee-yard at Beausejour, Man.

the orthodox methods which have been evolved under those conditions. White clover, the mainstay of the Ontario and Northern States beekeepers, is not very reliable here. During the past four years we have had a real flow from it only once, and this summer though the early hot weather and seasonable rains of April and May brought forth a wonderful display of bloom, there was no honey, and the bees were inclined to rob right up till the middle of July. Then the tide turned, and in the five or six weeks following we had a grand flow from mint (bergamot), thistles, goldenrod and aster, and yields running from 50 to 150 pounds per colony were harvested. In the picture that accompanies this article is shown the apiary of Mr. Pink, of Sturgeon Creek, which produced in the neighborhood of 5,000 pounds from some 100 colonies. Swarming began in July and continued clear until the end of August.

The chief point of difference between our system and the orthodox methods lies in the fact that these latter all aim to bring the bees rapidly to strength for an early clover flow, avoiding swarming. Then during a dearth in midsummer increase can be made, and finally a fall flow of buckwheat, goldenrod, heartsease, or aster, winds up the season with a secondary crop of dark honey. Here on the other hand our clover flow is doubtful, and even if it does materialize, much later, and when our second flow starts it goes on without interruption until the early frosts of late August or early September cut the flowers away. So we have to follow the teachings of the late Mr. Alexander, and build up as many strong colonies as possible by artificial increase in the earlier part of the season, and with young

queens, and a good start we can make even the babies add their contribution to the honey crop, besides providing themselves with a winter's supply of food.

The majority of Manitoba beekeepers use the extractor, rather than producing comb honey. But there are some successful comb-honey producers in the country and there seems no reason why it should not be produced as successfully here as in any other good honey locality.

## A Polish Beekeeper.

In bee-keeping as in many other "thrift" matters, the foreign-born people often excel their English-speaking neighbors. The picture shows a Polish hive from Beausejour in Southern Manitoba. These hives are interesting because they are undoubtedly derived from Prokopovitsch's hive. He was a famous bee-keeper in Russia in the 30's of last century who kept over 3,000 of these hives and ran a school of apiculture as well. He so far anticipated the modern movable frame hive that the hive is opened by a door in the side and the frames can be pried out one by one and the brood examined. Langstroth put the final touch to the whole outfit by devising a bee space just right so that the bees would not fill it up with comb or propolis. By allowing this all round the lower sides and ends of the frames, they were always ready for examination.

In the apiary shown the owner has so far "Canadianized" his apiary that the foreign-looking ones are already interspersed with Langstroth hives, and in the one pictured, he has used an ordinary eight-frame super, giving the bees access to it by a hole in the top of the lower hive.

He made the interesting remark that the Polish hives were better for honey, while the Langstroth hives were better for producing swarms. This bears out the belief that is gaining ground all over the beekeeping world, that (in extracted honey production at any rate) a hive with deep combs is the secret of success, and the only point of advantage the clumsy, awkward Polish hive has, lies in its long, deep combs conforming closely, as they do, to the natural combs built in hollow trees by bees in a state of nature.

## Winter Stores.

Winter stores are often a pitfall to the beginner in bees, in the West as elsewhere, and indeed the experienced beekeeper often finds it hard to refrain from "robbing" his bees down too closely when trade is brisk and customers waiting for honey at higher prices than ever before. Of course the intention is always to feed enough sugar to



Part of the Apiary of Mr. W. Pink, Sturgeon Creek, Manitoba.



offset the honey taken, but good intentions are only too often the road to undesirable places. The only safe rule is to be absolutely reckless with feed in the fall. Give them combs of solid honey on either side of the brood-nest, leaving only combs that already contain brood and then feed them sugar besides. Probably nothing but bitter experience of finding dead colonies in winter and spring, where some fine large cluster had starved to death, leaving combs as bare as a chip, will convince us that it is folly to lose a \$20 colony for the sake of \$2 worth of sugar, and what honey is not used in winter is never wasted. Either it will be turned into profit-making bees in spring, or even if left over can be extracted as good as ever before the new honey begins to come in.

Most bee-keepers here use the Langstroth hive, though I have seen a few of the old "Jones" hives in the country. Eight and ten frame hives each claim their adherents and good success is made with both of them. The deep Quinby or Jumbo hives are used a little and in the opinion of the writer will become more used for extracted honey, on account of their storage capacity, and swarming-checking qualities.

### Lincoln and Welland Bee-keepers Meet

The Lime Ridge Apiary No. 2 was the scene recently of the annual field meet of the Lincoln and Welland Beekeepers' Association. These apiaries, as most beekeepers know, are owned and operated by Mr. J. F. Dunn, of Ridgeway, and his son, Major S. D. Dunn. The picture on this page gives some idea of the location and size of this apiary. A short description of some of the outstanding features may be of interest to readers of *The Beekeeper*. All the supplies are stored in a building at the north end of the apiary, the house shown in the photo is to be used for extracting purposes.

The hives are arranged in neat rows with 8 ft. alleyways East and West, North and South. Hives are in clusters of four and faced East and West, all painted white. A slatted fence 8 ft. high encloses the apiary;

the "gap" shown at the left of the photo is a gateway for the truck. A loading platform and porch will be built where the door appears. It will be noticed that the fence is placed at an angle of 45 degrees and braced on the opposite side. Mr. Dunn prefers this style of fence for wind protection and considers it very much better than a tight board one. Just why this is we did not learn. To the right of the photo may be seen one of the bee-tents with the door standing open. It is very light, made of  $\frac{7}{8}$ " x  $\frac{7}{8}$ " basswood but very strong and rigid, each of the four sections being braced from corner with light wire and covered with mosquito netting. It folds together when not in use, the size being  $4\frac{1}{2}$ " x  $4\frac{1}{2}$ " and 5 ft. high, open at the top. The operator steps inside, closes the door, and opens up the hive with absolutely no danger of robber bees bothering.

Mr. A. E. Hashal, of Beamsville, the President of the Association, took charge, assisted by Mr. Jas. Armstrong and others. Mr. Hashal illustrated his favorite system of queen rearing, using artificial cell cups. He is a veteran bee-keeper and has made

a great success of the work. His lecture was very interesting and instructive. Mr. Robt. Chambers, of Fenwick, gave an address to beginners which was much appreciated, as many new recruits in the line of bee-keeping were present. Mr. Armstrong's topic was "Foul Brood and its Cure." He believes in heroic measures and advocates the double treatment and thorough disinfecting of the hives. Bees should be brushed, not shaken from the combs, (using a bunch of grass or something that is to be burnt.) They are placed first on starters and after three days the frames containing the starters should be taken away and any comb built destroyed; then requeen with good Italian stock. Major Dunn illustrated electric unbedding of wires in foundation, taking the current from the battery of his car.

It was a very enjoyable occasion, about 100 being present, several coming from the U. S. The weather was about perfect.

The general opinion of those present was that a field day should mean a full day, not half a day. Perhaps a picnic for 1920 for a full day could be arranged.

## Cellar Wintering of Bees

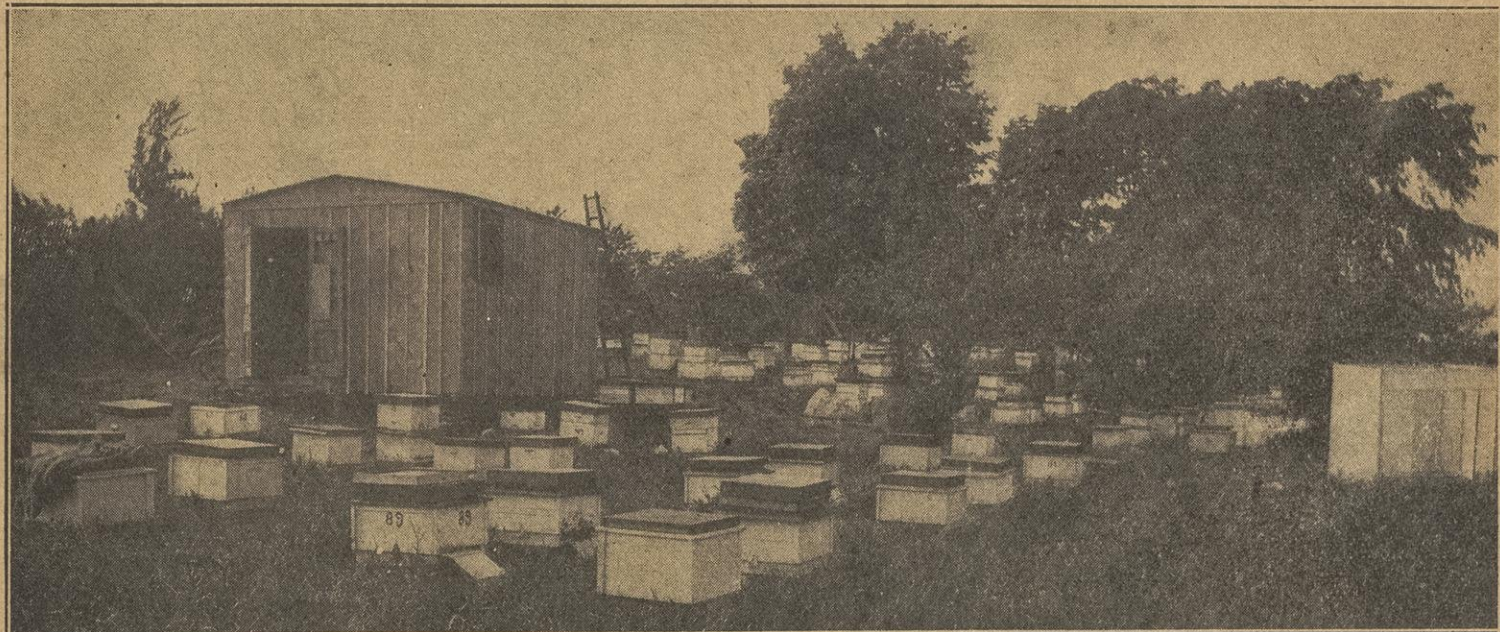
Geo. Kimball, Ilderton, Ont.

TO make a success of beekeeping it is necessary that you winter your bees well and be able to bring them to the spring with 95 per cent at least of all colonies full of bees.

As many beekeepers are already familiar with our method of wintering our bees I will address myself to those to whom our methods are unknown. As most of you know how to prepare your bees for winter I will not say anything about feeding but try to tell you what to do after you have your bees ready for winter. We winter in cellars under dwelling houses, and are quite indifferent as to whether the cellars are frost-proof or not, or whether they are dry or damp.

The reason why we have such uniform success is, I think, the way we prepare the cellar. If we have one hundred colonies

to winter in one cellar we partition off one corner to such a size that when the bees are in, that part partitioned off is full. About 8 ft. by 12 ft. is sufficient room. If the partition is properly made the temperature, when the bees are in, will be from 10 to 15 degrees higher where the bees are than in the other part of the cellar. We therefore use the bees as a furnace to raise the temperature. The corner the bees are in has a window in it and out of this we take one panel of glass and through the opening put a ventilator, about 8 in. square. Of course, the window is banked on the outside around the ventilator to make it dark. We open and close the ventilator from the inside. We can thus raise the temperature from 5 to 10 degrees by simply closing the ventilator. We like to keep the temperature close to 50 degrees in the



Lime Ridge Apiary No. 2, one of the apiaries operated by J. F. Dunn of Ridgeway, where the beekeepers of Lincoln and Welland County recently held a field meet. The hives in this apiary are nearly all double-walled and cork packed. The one shown in the foreground marked 89 is a single converted into a double-walled hive by putting a thin shell around the hive body; the bottom board is removable. More particulars are given in the article on this page.



forepart of the winter, giving more ventilation in March to keep the bees quiet. The covers are removed and we just have burlap over the frames, one inch of space between the burlap and the bottom board of the next hive and so on up. We pile them about five colonies high.

Bees wintered in this way will retain all their vitality. No dysentery, no spring dwindling, no pound packages needed, and, in the spring, no mouldy combs. We try and put them in the cellar as near the 20th of November as we can get a day suitable and take them out from the 1st to the 10th of April.

Some beekeepers think that bees should be packed after taken from the cellar, my experience is that it does no good. Bees wintered as I have described, with good queens and sufficient stores, will be all that you desire without any paper or packing, the vitality of the bees is so retained that they go right on building up even though the spring is backward. We wintered part of our bees outside in packing cases for several years but have abandoned it entirely. We found that they consumed more stores, lost more colonies, and what were left were not as strong as bees from the cellar.

If you find any colonies that are short of stores when putting them in the cellar put them on top of the piles, feed them with the 10-lb. pail feeders just the same as you do in the fall, any time during the winter.

## HERE AND THERE WITH THE BEEKEEPERS

Short Reports of Ontario Conditions

### Zurich

Sept. 19, 1919.

The fall honey how was little better than the eight. Buckwheat after the rains came in fine bloom, but there seemed to be little nectar in the blossoms. Bees mostly only worked a short time, two or three hours, on it. The hive scale kept stationary. Our bees are not as strong as in other years as breeding was not kept up as usual until August, but lately we have had good breeding so they should go in winter with a lot of young bees. Feeding is necessary. An improvement in young clover gives hope for 1920.—JACOB HABERER.

### Islington

Sept. 13, 1919.

Honey gave me 70 lbs. to the hive. All sold at 25c wholesale in 10-lb. tins. Bees strong. Late rains make a honey crop next year possible.—J. D. EVANS.

### Strathroy

Sept. 16, 1919.

This has been a very poor season here with us. I am just now feeding my bees for winter. The honey crop in most counties of Western Ontario has been almost a failure.—JOHN MOORE.

### Canfield

From all reports there will be no real surplus of Buckwheat honey as all they have gathered will be required to carry bees over winter. But I think they have plenty of stores without feeding.—S. B. BISBEE.

### Inglewood

Sept. 23, 1919.

The buckwheat season is over and in this locality and for the first time in many years has not yielded any honey. Bees are in good condition and need feeding but sugar is hardly obtainable.—H. G. SIBBALD.

### Bradford

Sept. 23, 1919.

Re Buckwheat honey crop conditions, the crop is all in and should all be extracted by now. We had a splendid yield and at one time we anticipated a record by all. At once the weather man intervened and the flow ceased, and when the weather improved the bloom was gone.—R. G. HOUGHTON.

### Guelph

Sept. 20, 1919.

There will be a very small crop of buckwheat around here and the weather was not the best for buckwheat. Bees will need more feed than usual this winter.—F. W. KROUSE.

## Spread of Bee Diseases

Often it is a difficult matter to determine the manner in which bee diseases have been introduced into a district. A number of cases have, however, been determined during the past year or two that indicate that the use of leaky tins in sending honey to and from the market is one of the most prolific sources by which disease gains an entry into a colony or apiary. Investigations have shown that empty tins that have not been cleaned, and which are therefore smeared with honey, and perhaps contain a coating of honey on the inner bottom of the tins, have been returned to a district when robber bees are active. These tins have been visited by bees while on the station platform and disease contained in them has been conveyed to a number of neighboring apiaries. An outbreak that occurred last season was carefully investigated, and it was then found that tins had been sent into a district that had just previously contained honey taken from an apiary in which foul brood had developed, and the residue after emptying the tins had been the means of spreading the disease to at least one beekeeping centre. Since there is no doubt concerning the authenticity of several outbreaks of this nature, it would be a wise course for all beekeepers to insist on empty cans being dipped for a few seconds in boiling water or disinfectant before they are forwarded to the apiary. If there is foul brood about robber bees will disseminate it, and there is no more ready means of doing this than through the medium of leaking or empty tins.—The Australasian.

## Bee Pasturage

By John Moore.

The summer of 1919 in Western Ontario will be known among beekeepers as one of the poorest ever experienced—only a week of dandelion flow and a few days of basswood and the rest of the time scarcely enough of nectar to keep up brood rearing. As a result, many colonies will go into winter quarters in poor condition. A year ago last winter being so cold, followed by the too dry summer, seems to have killed the white clover and there is very little alsike. Clover is the beekeeper's mainstay and there is little prospect for clover honey next season in Middlesex county. Sugar is scarce and expensive and it is very discouraging to handle and attend to bees the year round and then have only honey enough to buy sugar for winter feed. Some beekeepers even have not that this season and will be out of pocket.

Long continued droughts seem to be more prevalent and would it not be wise for beekeepers to provide bee pasturage in case of emergency. Ten acres of sweet clover would provide pasture for 75 colonies. It sinks its roots deep in the soil and on that account dry weather does not affect it so much. It comes in a time of year when there is little else in bloom and if we had honey from sweet clover up here now it would sell fast. Sweet clover will yield a flow every year and it would be a safe thing to have. I am now selling dandelion honey at 20 cents a lb. for the simple reason that people can't get anything else.

Buckwheat is good for a fall flow but not very sure, sometimes it yields well and then again it may not, all depending on weather conditions. To sow land well cultivated so as to retain moisture; say 5 acres on July 1st and 5 acres two weeks later, should give good results in honey and grain. If I had land enough I would put in next season as bee pasturage 5 acres of sweet clover and 5 acres of buckwheat. There are drawbacks to beekeeping, as foul brood and wintering, and these may be overcome, but the greatest drawback in this section is the lack of bloom throughout the season. This can be overcome by sweet clover and buckwheat.

### A CORRECTION.

In the article by John T. Wilson in the September Beekeeper are several printer's errors. Readers will please note these corrections. In the third paragraph the sentence reading "Just after the crop is exhausted" should be "Just after the crop is extracted."

The size of the entrance to the winter case (par. 10) should be 4 inches by 1½ inches. In paragraph 14 read "one colony" instead of "our colony" and in the following paragraph read "with sawdust all around the sides of the inner case and about 8 inches on top."



The apiary of Wm. D. Wright, Souris, Man. All hives except three are double walled and all his own make. The hive in the centre is working on the Wells principle with two queens and working altogether in supers, and equipped with non-swarming chamber, with provisions for ventilation underneath. This hive was stocked with two artificial swarms on June 29 and up to Sept. 1 had given 60 lbs. of surplus honey.



## Niagara District Notes

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

**D**URING the past month the weather has been favorable to the picking and handling of the peach, plum, pear and grape crops. Sufficient rain has fallen to swell up and mature later fruits. In the district from Beamsville to Hamilton the peach crop has turned out fairly well. Both color and quality never were better, and although St. Johns and Early Crawfords were rather on the small side, the later peaches held their size well. The demand has been keen and the prices remunerative, Nos. 1 and 2 averaging about \$1 per 11-quart basket f.o.b. shipping point, in large lots. In the district from Beamsville to the Niagara River the crop was much lighter, although it turned out somewhat better than was expected at one time. "Curl Leaf" was chiefly responsible for the difference, its ravages having been great in the portion of the Niagara district just mentioned. A large number of growers did not get their lime-sulphur spray on early enough. This was partly owing to the fact that the ground was very soft in the spring owing to wet weather. To some extent neglect was responsible. It would appear as though applying lime-sulphur late in the fall to the peach trees would be well worth a trial, especially in the case of those growers whose land is apt to be too soft to allow of getting on it early enough, in the case of a wet and cold spring, when conditions are favorable for the quick development of "Curl Leaf." The plum crop was light all over the district, but in the main of excellent quality; prices were good, running from \$1 to \$1.25 for the early kinds, up to \$1.75 and \$2 per 11-quart basket

for Reine Claudes, Grand Dukes, etc. Bartlett pears turned out from 60 to 75% of a crop and the price was good, canners paying in the neighborhood of \$1 per 11-quart basket. Anjou pears are being picked now (Sept. 18) and are a fair crop. Duchess, however, are light, but Keiffers promise pretty well if the weather does not stay too dry to admit of their getting their proper size. Peaches have ripened remarkably early this year, as indeed have nearly all other fruits; the season being fully three weeks ahead of last year.

There never has been a year when the quality of the grape crop has been superior to that of this season. The quantity is not more than 80 per cent. of a full crop, but the quality is superb, and grapes have ripened so early that there is no excuse for anyone to ship green or unripe grapes this season.

The district representative of Wentworth County stated recently that the fruit farmers may be asking high prices, but in spite of that they will not make a reasonable profit. Plums are very light, and the apple crop in the county is not any better than last season.

A Montreal melon, weighing 20 lbs., has been grown at the Vineland Experimental Station. For the musk variety this is an exceptionally big melon. Its circumference is 36 inches.

The Dominion Canners have purchased the old Bell Telephone Building in Hamilton and will use it for their head office; it is also reported that the company is going to

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Many of my customers order in lots of from 10 to 50 roots.

Paeony roots from \$3.00 to \$5.00 per clump.

Iris roots from \$2.00 to \$2.50 per clump.

All kinds of perennial plants for sale at the catalogue price.

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**AMERICAN BEE JOURNAL**  
HAMILTON, ILLINOIS

erect a large jam factory in Hamilton, where their present jam plant is located.

A report from Beamsville says that there has been a marked increase in the prices paid to the local fruit growers over those of 1918. Pears jumped from 65c and 75c a basket to \$1 and \$1.20. Plums rose from 65c and 75c to \$1.25 and \$1.65 per 11-quart basket. Peaches were about steady, 75c to \$1.10. Grapes from 25c and 30c to 35c and 40c per 6-quart basket. Tomatoes at 30c to 40c per basket were much the same as in previous years.

Reeve Mahony of Saltfleet stated recently that there is every prospect of the Canadian growers capturing the American market with the high quality of the grapes grown in the Niagara Peninsula. This year, especially, the grapes have attained an excellence seldom seen. It is usual to produce three tons of grapes per acre in the Niagara district, and that is almost double the amount produced from an acre in New York state. The activities of the new Grape Growers' Association have meant much to the producers. Fully \$25 per ton more has been secured for the members than was offered by the wine and juice manufacturers. Reeve Mahony also stated that in his opinion the grape growers have a splendid new field before them in going in for the production of raisins, of which over 22,000,000 pounds are imported into Canada. Mr. Mahony thinks it is feasible after some experimenting to produce a good quality of raisins here.

A report of Sept. 13th from Old Niagara says that a number of grape growers in that vicinity have recently joined the Grape Growers' Association and have sent representatives to the United States to get in touch with prices, contracts, etc., and already five carloads have been purchased at

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\$100 per ton delivered at Niagara Falls, N.Y., with more orders to follow. Although it was said earlier in the season that there was little or no fruit of certain kinds in this part of the district, some very fine Crawford and other varieties of peaches are being shipped, also tomatoes, early apples, pears, and a few plums. Peaches are being taken to the canning factory, also a large quantity of sweet corn, which is being canned there for the first time.

### Niagara District Lettergrams

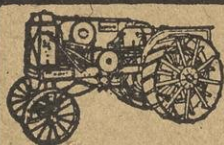
Apples, light to fair crop, quality good, very little scab, some side worms. Some orchards sold, tree run, \$2.50 to \$3.25 a barrel, seller to pick the apples and deliver

them, buyers to do the rest. Grapes a heavy crop of good quality. Prices 38 to 42½ a 6-quart basket.—A. W. Peart, Burlington, Ont.

Grimsby District:—At time of writing (Sept. 24th) the peach crop is practically harvested, which is earlier than at any time during the past ten years. The grape crop is turning out well, price and quality being exceptionally good. The factories are being well supplied with tomatoes of good quality at 50c per bushel. The bad oiling on the Provincial Highway has cost the farmers of this district thousands of dollars in damage to fruit trees and shrubs, besides great domestic discomfort, and the consumer has in many cases been supplied with dirty, dusty, oily fruit.—H. Fleming.

Conditions in England point to a shortage in the home supply of jam next winter. Thus a splendid opportunity will be afforded of popularizing the Canadian product. One London retailer reports that many people will buy Canadian jam because it is made in the Empire. He points out also that the consumers like the Canadian lacquered tins with lever lid and nice label, and especially since the jam contained in them is high class.

There is not a wholesaler in Toronto who would take the risk of ordering half a dozen cars of Ontario potatoes of a certain grade. By grading our potatoes we can establish the reputation of our own products.—Henry Broughton, Sarnia,



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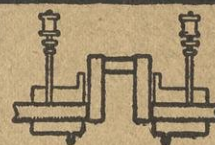
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## Okanagan Valley Notes

F. A. Williamson, Summerland, B.C.

Growers in the Okanagan have every reason to be satisfied with the return of the season. The total output will be large, and the returns every bit as good or better than ever before. Generally speaking, store fruits showed a small decrease, but apples will show an immense gain, so that it is expected that the total fruit shipments from the Valley will this year reach about 4,000 minimum cars, as against 3,700 last year. Vegetables in the North Okanagan were greatly retarded by dry weather, and will total less than in former years, but the irrigated districts to the south, independent of the natural precipitation, bore their customary rich crops of fruit and in greater volume because of young orchards coming into bearing.

The Okanagan has come to be by far the largest fruit producing district in B. C. Figures issued by the Provincial Department of Agriculture show that the Okanagan Valley, taking in the territory that extends down to the international boundary, produced in 1918 75 per cent. of the total apple output of the province. In some other fruits the percentage is even higher. Eighty-five per cent. of the crabapple output was Okanagan grown, plums 75 per cent., and peaches 98 per cent. Apricots 99 per cent., and cherries slightly over 50 per cent. The Okanagan apple output will this year attain a higher percentage, being estimated at 30 per cent. more than last year, while other districts show far smaller increases, and in some cases a decrease.

Considerable new plantings of peach trees have been made in the south end of the Valley this last year or so. Six or seven years ago peach trees were pulled out by the score because peach production did not seem profitable. In those days the price to the grower was about 1½ cents a pound, certainly not more than two cents. Now it is five cents, sometimes more, not often less.

A change has been made this year in the peach crate, the American crate, 11½ inches wide, having been adopted as the standard, being half an inch wider than the crate formerly used. Grading requirements have been changed to allow a maximum of 96 to the crate, No. 1, instead of 90. Alexanders and other early varieties were formerly allowed up to 96, but only that number are allowed to the larger crate, so that in those varieties the grading has been stiffened.

The market for the Okanagan is constantly widening. This year, as formerly, apples from the Valley will cross the Atlantic to Britain, the Pacific to China and Japan, and cross the equator to Central and South America, New Zealand and Australia. During the war, the export trade to England has been considerably curtailed, but shipping space, up to the amount of shippers' estimate, is to be made available this year. Two other markets are to be tried out extensively this year, namely, Eastern Canada and metropolitan areas in the States. This seems like carrying coals to Newcastle, but it is a fact that high grade stuff in standard varieties, such as Jonathan, McIntosh Red, Newtowns, etc., are to be sent in great quantity to these markets. To the States alone, principally eastern points, one Valley concern will send not less than 250 cars. These will go to New York, Chicago, Minneapolis, St. Paul, St. Louis, Boston, and points in the Dakotas, Kansas, Oklahoma, Wisconsin and other states. The McIntosh Red will be a popular apple in these markets. Its superior color and keeping qualities have

made the Okanagan McIntosh superior to that produced in any United States or Canadian districts. In Eastern Canada, Ontario, Nova Scotia, New Brunswick and Quebec will sell Okanagan boxed apples in quantity this fall and winter.

The sugar shortage in the prairie provinces recently several times threatened considerable trouble for B. C. preserving fruits, from which the Okanagan would have suffered mostly. Fortunately it was only threatened, and never actually materialized into loss for the growers. The number of cancellations was not great and the loss experienced was negligible. The fact that express shipments from the Valley are already, early in September, known to have passed the total of 1918, is the surest indication that little loss resulted from this threatened trouble. R. M. Winslow, formerly provincial horticulturist, and now acting for the Okanagan Traffic and Credit Association, was largely responsible for the fact that disaster was avoided, and should be given credit for it.

I am exceedingly glad to renew my subscription to your excellent magazine, The Canadian Horticulturist. — Miss M. R. Clarke, Toronto.



### SMALL FRUITS

Raspberries, Gooseberries, Red Currants, Black Currants, Strawberries, Rhubarb Roots, Asparagus Roots, etc., etc.

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G. H. FERGUSON,  
Minister of Lands, Forests and Mines.



## B.C. vs. Ontario Apples

The increasing competition of British Columbia boxed apples in Ontario markets makes the disposal of the western crop a matter of interest to Ontario growers. In this connection McWilliam and Everist, fruit and produce merchants, of Toronto, advise The Canadian Horticulturist that in their opinion the exceedingly high prices being asked by British Columbia growers for boxes on the opening of the market will deter, somewhat, the public from buying this form of package and drive them back to the barrel stock. They recognize, however, that there is always a considerable demand for British Columbia apples on account of their excellent quality and uniform packing. "We believe," they write, "that prices will be lower two months hence, than they are now."

White & Co., of Toronto, point out that the light crop in Ontario and the consequent high prices being asked by Ontario growers are creating an opening for the western fruit. "There is," they say, "a very good market for British Columbia early apples, such as Jonathans and McIntosh Reds. Both of these varieties sell well in Toronto. We have ten or fifteen cars on purchase from a British Columbia house. Their later varieties, however, are not so good—the Spies seem to lack color, and the Rome Beauties are not as good as we get from south of the border."

## Items of Interest

It is estimated that the British Columbia 1918 fruit crop was worth \$4,000,000 cash to the growers. Prominent men of the Okanagan say this record will be badly smashed this year. They expect that \$5,500,000 will be placed in the hands of British Columbia growers between June 1 and December.

In consequence of the spell of hot weather and the prevalence of wasps, English apples will not keep well and the crop from many orchards is now pouring into Covent Garden Market, where the poorer growths are fetching as low as three cents a pound. A prominent English salesman considers that as the result of Nature's bounty the Canadian grower is not likely to do as well on the English market as last year because few apples are likely to reach twelve cents a pound. With this reservation good late varieties should be in favorable demand.

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## Deafness



Perfect hearing is now being restored in every condition of deafness or defective hearing from causes such as Catarrhal Deafness, Relaxed or Sunken Drums, Thickened Drums, Roaring and Hissing Sounds, Perforated, Wholly or Partially Destroyed Drums, Discharge from Ears, etc.

### Wilson Common-Sense Ear Drums

"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable. Write today for our 168 page FREE book on DEAFNESS, giving you full particulars and testimonials.

WILSON EAR DRUM CO., Incorporated  
1173 Inter-Southern Bldg. LOUISVILLE, KY.

## BARRELS

### Standard Size

### Government Specifications

Our barrels are not made from cull staves, but cut from absolutely mill run timber, with exactly the correct bilge and thickness. Heading mostly basswood, which takes a nice brand. Our barrels are all made by machinery which ensures an even croze and every head fitting. We make six and eight hoop.

Get ready for the big apple crop which is promised and order your barrels now. We guarantee our barrels, etc., first class in every respect and invite enquiries for prices and further particulars.

## THE YAMASKA COOPERAGE CO.

Abbotsford, Que.



## The Fruit & 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.

### H. J. ASH

44-46 Church St. - Toronto, Ont.

CONSIGNMENTS OF FRUIT AND VEGETABLES SOLICITED

Shipping stamps furnished on request  
Canada Food Board License Nos. 3-043,  
3-044 and 3-517.

### DAWSON-ELLIOTT CO.

32 West Market St., Toronto, Ont.  
Wholesale Fruit and Produce Consignments Solicited.

Canada Food Board License No. 3-045,  
Class II., Div. B., and 3-046, Class II.,  
Div. C.

### PETERS, DUNCAN Limited

88 Front St E., Toronto, Ont.

See advertisement on page 260

Canada Food Board License Nos. 3-007,  
3-008 and 3-009.

## FLORIST WANTED

An experienced man to act as working foreman and to take charge of small commercial greenhouses. A grower of pot plants, forcer of bulbs, some cut flowers and a handy all-round florist for a retail place. Must be thoroughly reliable, able to plan his work and to handle helpers to advantage. A permanent position to satisfactory man. Wages \$25 per week and a bonus in January and July, to start. Position open October 1st. Give full particulars as to experience, age, nationality, etc., in first letter and reply to

Box 13, The Canadian Horticulturist  
PETERBORO ONTARIO

## POULTRY YARD

### Fall Suggestions

Did you ever take a plant in after it had been left out for a few fall nights so that the cold had given it a good chilling? The plant will surely turn yellow and drop its leaves, while the same plant taken in before these cold nights begin will go on as if no change had been made. It is much the same with the chicks and older birds. They should be in comfortable quarters now and put where they will likely remain for the winter. Kept growing continually they will come to the best maturity and when the time comes start shelling out the eggs that will bring of necessity the high price, while the neglected stock will be eating every thing in sight and waiting for the balmy days of spring before they begin to pay for their keep.

The pullets should be placed in their winter quarters before they begin laying. To move them after they have begun will give them a setback. Do not overcrowd. Not more than twenty-five pullets of our Canadian breeds should be in one flock, and a smaller number is better. In the case of Leghorns or any of the Mediterranean class, twice that number will do equally as well.

Good layers molt late and quickly. If you go through the flock the first of October and pick out the hens that are just beginning to moult, or have not started, you will get most of those which are laying.

Soft, pliable combs are an indication of good laying condition. When a hen stops laying her comb dries up and becomes smaller and harder, while those which are

laying well have soft and pliable combs; not necessarily large combs, however.

Well selected hens or pullets that are given the right attention in care and feeding, together with good winter quarters, stand a good chance of making a real record in profits this winter.

### Dead Leaves for Litter

Leaves gathered when they are thoroughly dry constitute the very best litter for the poultry house. There is usually but one time in the early fall when freshly fallen leaves in the woods and along roadsides are in prime condition for such use. This lasts only a few days, and it is at such times that they should be gathered.

Barrels or sacks may be used for storage, but if an abundance of room is available it is best to put them away loose. Empty stalls or grain rooms offer the most satisfactory means of keeping such litter free from mold.

If there is anything in which a hen more dearly loves to scratch than rustling leaves we have yet to see it. A flock will work busily all day long in such litter—far more contentedly than in straw. Continual scratching reduces the leaves to a mass of powdery mulch in which condition, bearing a generous amount of droppings, it becomes a splendid product for the home garden. Not only is such a soil dressing of some fertilizing value, but it provides a large element of humus which is of great worth.—(Orin Crooker.)

### Select Your Birds

Now is a good time to select a breeding flock for next year. The poultry fancier will do well when he visits his poultry pens to have a small package of leg bands handy and slip them on to some of the late moulters that seem to have good constitution and correct conformation for the breed.

When we first started into poultry we knew nothing about conformation, and it seemed almost ridiculous for us to start or try to select a breeding pen. The whole difficulty is in getting started. As the work progresses the poultrymen become skilled in noting the points of a good bird, and it is on this selection that flock improvement depends.—C. G. P.

### Hens Need Clean Quarters

If you do not believe that a clean poultry house, sweet smelling and sanitary quarters, will pay handsomely, just observe two flocks, one that is kept in such a house and under such conditions and another that is kept in a house that is seldom cleaned and as a consequence is filthy and filled with foul odors. Note the difference in plumage, activity and general appearance of the two flocks and the number of eggs received. That alone will convince you of the absolute necessity of clean, comfortable quarters for hens. The poultry house needs a good, thorough cleansing. Brush down



## Bruce's Regal Flowering Bulbs

### FOR FALL PLANTING

Delivery not later than 15th Oct.

Write for our free 28-page illustrated catalogue—

Bulbs  
Seeds  
Plants  
Poultry  
Supplies

For Winter Flowering indoors and Spring Flowering outdoors. A House without flowers is not a Home. Prices Postpaid.

	EACH	DOZ.	100
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Lilies, Chinese Sacred.....	.25	2.50	....
Hyacinths, Roman, four colors	.12	1.20	8.50
Hyacinths, Dutch, four colors	.10	1.00	7.00
Narcissus, Single, 6 varieties	.06	.60	4.00
Narcissus, Double, 4 varieties	.06	.60	4.00
Narcissus, Paper White.....	.07	.65	4.50
Scilla Siberica, Blue.....	.05	.45	3.25
Snowdrops, Single, White...	.05	.40	2.75
Tulips, Single Mixed.....	.05	.50	3.50
Tulips, Double Mixed.....	.06	.60	4.00
Tulips, Parrot, Mixed.....	.06	.55	3.50
Tulips, Darwin, Mixed.....	.06	.55	3.50

John A. Bruce & Co. Limited HAMILTON, ONT.

Established 1850

217



the walls and ceiling, and remove the old litter from the nests and floor. Whitewash or spray walls, ceiling and fittings. Fresh, dry earth or clean, dry sand or sifted gravel makes the most comfortable floors to be had when covered with a litter of straw—rye straw preferred. Do not put in all the straw necessary at once, as the hens cannot stir so much; add a little every day or two as long as desirable.

Advertise in The Canadian Horticulturist—It Pays.

## Annapolis Valley

Eunice Buchanan, Berwick, N.S.

The frosts have held off well. The first one occurred on September 15th when very tender plants were frozen, but corn remained untouched. We have had much damp and dull weather but, on the whole, fruits and vegetables have ripened nicely.

A number of orchardists, even some of the largest growers, have disposed of their

entire apple crop (with the exception of very early fruit) to the evaporators. The fruit, ones and twos, were sold for \$2 a bbl. but no drops are to be put in until October 1st when they count as good as other apples. Each barrel of fruit must weigh 145 lbs., this weight of hard winter varieties will go into the barrel, but earlier kinds are lighter, so an extra measure of these soft apples must be given. About three barrels from each load are weighed to get the average weight. At first sight, \$2 seems small, but

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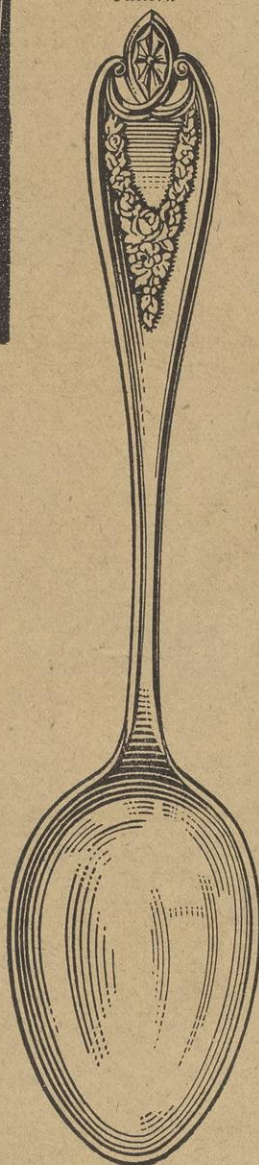
Buy only when you see the mark "1847 Rogers Bros." on the backs of the spoons, forks, etc., for that mark identifies the famous time-tested Rogers Very Best.

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SILVERWARE

*The Family Plate for Seventy Years*

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*Made in Canada by Canadians and sold by leading  
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# SEEDS

IS "anything good enough for the Colonies?"

**YES,** one thing and one thing only—  
**THE BEST**

*An Ontario Seedsman says:*

"Thanks to your splendid seeds, we have some splendid War Gardens round here."

For upwards of 70 years we have been distributing Seeds of this "KELWAY QUALITY" to the public. We are now WHOLESALE ONLY, supplying Seedsmen

**VEGETABLES**

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**FARM ROOTS**

Get our Special Prices to-day, or send orders which will be booked at lowest current trade prices

**KELWAY & SON** (Wholesale Seed Growers) **LANGPORT, ENGLAND**  
Cable Address - - - - - **KELWAY, LANGPORT**

the evaporators loan the growers 100 empty barrels each. Barrels are scarce and cost 75c each or more. Evaporator apples need no packing and no heading; as men's wages are \$3 a day this is quite a consideration. Again, one man said that he did not have to wait until June for his \$4,000 and lose the interest.

Some people pay \$2 a day and board the men, other \$3 and no board, or 30c an hour, the men paying \$6 and \$7 a week elsewhere. Some farmers pay at the rate of 15 cents a bbl. for picking. Plenty of men are to be had by meeting the trains at apple centres, like Berwick. Some of these men left work in mines, etc., at \$90 a month, and came expecting the same rate of wages in orchards. On being disappointed in this they returned to their former jobs.

Duchess apples sold for \$4 a bbl., plums \$5 a bus., green tomatoes \$1 bus., pears (locally) \$1 bus. Advancing prices are expected for apples sent to England. Returns from the first boats are very encouraging.

## Nova Scotia Apple Crop

Apple crop prospects are becoming brighter. Some of the leading orchardists are predicting that the yield in the Annapolis Valley will equal that of 1911.

The first estimate, made when the orchards were in bloom, was the prospect of a two million barrel crop. This was reduced to an export crop of one and a quarter million barrels, but since the apple picking season has begun, the expectations of a total production of nearly two million barrels seem more likely to be realized. All through Kings County the crop is large, and while there is a quantity of scabby fruit, particularly in Gravensteins, where spraying was not faithfully carried out, yet the apples generally are growing large and therefore yielding more than the owners expected.

Berwick is one of the leading fruit and vegetable producing districts in the Annapolis Valley. Apples, potatoes, plums, peaches and tomatoes have been shipped daily in large quantities. Nearly one ton of tomatoes was sent to Halifax one day on one of the afternoon expresses.

Mr. S. B. Chute, Berwick, expects to gather 14,000 and Mr. Geo. Gates, of Port Williams, 8,000 bbls. of apples.

Fine reports have been received from growers who have followed the directions given in the spraying calendar issued by Prof. Brittain, of the Nova Scotia Agricultural College, and Mr. G. E. Sanders of the Federal Department. The various sprays recommended have proved most satisfactory.

The busy season has commenced in earnest and apple gathering is away to a good start. From reports it looks as though the crop will be up to expectations as to the quantity, but hardly as to quality. The Gravenstein variety is much below the average owing to the prevalence of spot and it is considered doubtful whether 50 per cent. of this crop will grade No. 1 and No. 2. Pickers seem to be plentiful and shipping facilities are being provided as rapidly as possible.

There was some objection to the Ontario Government's proposal to have the Hamilton-Niagara Falls Provincial Highway go by way of Merriton, Thorold, Black Horse Hotel, Canboro Road and Lundy's Lane, because it was thought that the beautiful avenue of trees on Lundy's Lane would be cut through, but when it was learned that they were to be unharmed, all objection was withdrawn.



## Detroit Convention

ONTARIO vegetable growers were much interested in the eleventh annual convention of the Vegetable Growers' Association of America, which was held at Detroit, Michigan, September 9-12, 1919, and a considerable number of them attended the sessions in which Canadian speakers also took part.

Among the more noted speakers was Mr. F. A. Downing of the Bureau of Markets, Washington, D.C., who dealt with the standardization of containers for vegetable growers products.

While growers have made great progress in recent years in cultural methods, Mr. Downing pointed out that marketing methods have not advanced correspondingly. All growers are in favor of standardization, but the question is, what should be the form, weight or measure? It is not feasible to use weights, since it is not possible to get the weights in a bushel basket to conform with the legal weight, although at the present time the government demands this impossible task.

There are 40 kinds of cabbage crates used in the States. The committee on standardization suggested: "We must determine our requirements, then have laws to sustain them." Mr. Downing suggested a list of sizes of containers which in practical use would meet all reasonable requirements. The market basket in five sizes would suffice for all general purposes and these sizes should be standardized nationally. He was sure these would be the same distinct success the standard grape basket is now.

Mr. J. H. Rice, chairman of the fuel commission, told how little co-operation existed between the officials of the association and the government officers. He urged a better

work of organization that would be able to import of the vegetable growers' industry. all times to show the government the full He said: "Make the organization so formid-



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LEADING FUR HOUSE**

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Not only do we pay the HIGHEST price for your furs, but we do not quote a "sliding scale" of prices. Our price-list quotes one fixed price for each size skin, and we actually pay that price. You positively know what your furs will bring before you ship them. 66 years in the fur business and our capital of \$1,750,000 assures you a square deal.

**WE CHARGE NO COMMISSION**

You get all of the value of your furs—every cent—without any deductions. Our expert graders give you a fair, liberal assortment and you get their full value.

**WE PAY SHIPPING CHARGES.** All express or parcel post charges are paid by us. This saves you lots of money—sometimes as much as 5% that you save on your catch for the season. We send "our money the same day furs are received."

**WRITE US TODAY**

Before letting a single skin go, be sure to get our prices. Write today for valuable booklet, "Successful Trapping." Tells how to get the most money out of your furs. Also our latest market news, price-list and shipping tags—all free. Write us NOW.

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*Exhibit If You Can—*

*If You Cannot,*

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To See the Greatest Exhibition of Horticultural Products ever  
Shown in Canada

**The Ontario Horticultural Exhibition**

**Nov. 11, 12, 13, 14, 15**

**Exhibition Grounds, Toronto**

FRUITS

FLOWERS

VEGETABLES

HONEY

Fruit Growers' Convention — Women's Institutes Convention — Beekeepers' Convention

*After Five Years of War, Once More the Products of Peace*



able that the department of agriculture at Washington will properly recognize it."

During the session, at which co-operation was the key note, Mr. Don Buell, of Cadillac,

Michigan, gave an interesting account of the workings of the Michigan Potato Growers' Exchange, which is composed of 78 locals, operating under one head at Cadillac. He described their marketing methods and success and referred to the United Potato Growers of Petoskey, Mich., who specialize in the Golden Russet variety. Mr. E. A. Dunbar, Ashtabula, O., told of the eighteen-year-old Lettuce Growers' Association of that city.

Mr. Louis F. Miller, Toledo, O., while speaking of the co-operation among Toledo gardeners mentioned that the members, through a misconception of the organization's purposes, had been recently indicted under the technical charge of restraint of trade. A hearing had been set for September, the result of which no one feared, as the operations were within legal requirements.

Howard W. Selby outlined how the organized farmers of New England, under the name of the New England Farmers' Exchange, both buy and sell their necessities and produce. Sixteen hundred cars of produce will be marketed this year.

Treasurer Davis' report showed receipts during the year of \$1,410.80, disbursements \$1,324.79, and a balance of \$86.01, with Liberty Bonds worth \$400 on hand.

Among the speakers were Mr. A. H. McLennan, Toronto, Ont., vegetable specialist of the Department of Agriculture, who spoke on "Experimental Work in Connection with Vegetable Growing in Ontario," and Prof. J. W. Crow, Guelph, Ont., was on the program for an address on "Developing Improved Strains of Varieties of Vegetables."

George Rayer, Toledo, Ohio, read a paper on "The Development of Vegetable Forcing at Toledo." This brought about, perhaps, the most general and interesting discussion of the convention. During the discussion much stress was laid on the great importance of soil sterilization which was declared by all to be so necessary to successful operations with greenhouse crops.

The cost of greenhouse construction was put at about 75 cents a square foot, and at such a price no vegetable grower was found who would advise building a greenhouse at present fluctuating values of greenhouse products. In this discussion the depreciation of greenhouse property was taken up, and the following resolution, designed to guide all in the disclosures made to the income tax collectors was drawn up:

"Be it resolved by the Vegetable Growers' Association of America that it is the opinion of the greenhouse growers of the association that a depreciation of 10 per cent. a year on greenhouses is a fair depreciative charge."

At the annual banquet, at which over 300 were present, J. Lockie Wilson, of Toronto, spoke of the deplorable condition that took the productive power of the world away to destroy fellow men, and praised the work of the association. N. P. Hartman explained the difficulties which the railroads are laboring under in trying to serve the shippers in the movement of their produce, while in reality the blame should lie with the restlessness of the people.

Prof. H. C. Thompson, of Ithaca, N.Y., called attention to the fact that more and better storage meant greater advantages to the grower and consumer alike, through the more equitable adjustment of prices and the elimination of loss. Prof. L. M. Montgomery, of the Ohio State University, gave an address on "Possibilities of State Association Work," which proved an interesting subject.

Resolutions were presented to reduce the constantly increasing list of alleged new and varied types of vegetables by some seedsmen who at present enumerate more than 7,000 varieties, which according to an investigation conducted by Dr. Tracy should be reduced fully 90 per cent. to arrive at really distinct sorts.

The officers elected for next year were:

## PERRY'S SEEDS

Alpine and perennials, unique collection; many new varieties unobtainable from any other source.

Hardy and adapted for Canadian climate.

HARDY PLANT FARM, ENFIELD, ENGLAND

## APPLE BARRELS

New standard-machine made, best quality. Delivered anywhere in Ontario and Quebec. Write for prices.

Contracts made with Fruit Associations and others.

Sarnia Barrel Works

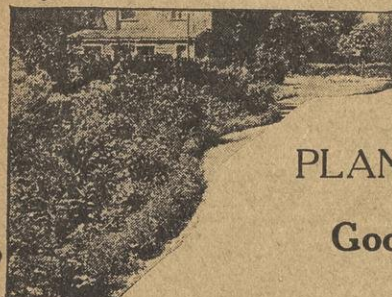
SARNIA : : : ONTARIO.

## PEONIES

Plant them this fall—they will bloom next June. I have the best and largest collection in Canada. Also other good things for fall planting. Write for catalogue.

A. W. GRAHAM.

St. Thomas : : : Ontario.



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ROSE'S NEAREST RIVAL

PLANT PEONIES IN OCTOBER

Good Varieties

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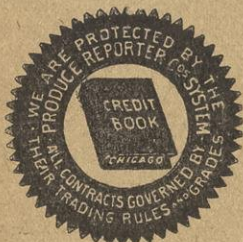
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OUR facilities enable us to realize top prices at all times for your fruit, vegetables or general produce. Aside from our large connection on the Toronto Market, we have established branch warehouses with competent men in charge at Sudbury, North Bay,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

Canada Food Board License Nos. 3-007, 3-008 and 3-009.

Branch Warehouses:  
Cobalt and Timmins.  
Sudbury, North Bay,

PETERS, DUNCAN LIMITED  
88 Front St. East, Toronto



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## Continued Business Activity and Good Wages Depend on Canada's New Victory Loan

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Canada was able to obtain these orders because she advanced credit to these countries.

Canada was able to give this credit only because you bought Victory Bonds.

Great Britain, with France, Belgium, and other Allies, are now prepared to place large orders with us for the products of our factories, farms, forests and fisheries—provided Canada again gives them credit.

Credit must be given if we are to have any guarantee of good times and good

wages. But our workers on these orders must be paid their wages in cash; so, much of the money that you invest in Victory Bonds will go out in wages to Canadians.

You will be absolutely protected—you will get a good rate of interest and all of your money will be paid back at the time stated in the Bond.

Every cent will be spent in Canada, and ultimately circulate to the benefit of all.

Canada can give this credit only if you again buy Victory Bonds.

If Canada is not able to give this credit, other countries will.

Therefore, Canada's continued prosperity rests with you.

# Victory Loan 1919

*“Every Dollar Spent in Canada”*

Issued by Canada's Victory Loan Committee,  
in co-operation with the Minister of Finance  
of the Dominion of Canada.



## FOR SALE AND WANT ADS

Advertisements in this department inserted at the rate of 15 cents a line, each line averaging seven words. Part lines count as whole lines, minimum of two lines accepted. Strictly cash in advance.

### BEES

"SHE SUITS ME."—Italian queens, untested, \$1.15 each. For 10 or more, \$1.00 each. Allen Latham, Norwichtown, Conn., U.S.A.

HARDY ITALIAN QUEENS, no bees. W. G. Lauver, Middletown, Pa.

APIARY AND COMPLETE EQUIPMENT FOR SALE AT SIMCOE, ONT.—18 colonies, clean and free from disease, all re-queened in last two years—also lowers and supers to equip 30 extra colonies—Langstroth hives, 12 frame—one extractor, 4 frame reversible wax press—20 metal queen excluders and two 600-lb. honey containers. All equipment in fine condition and only used three seasons. Fruit orchard now requires all owner's time. Get particulars from W. B. Tomlinson, Suite 702, Standard Bank Bldg., Toronto, Ont.

### MISCELLANEOUS

GRADUATE—(With distinction) of English Horticultural College, with 17 years practical experience in England and Canada, seeks position as Park Superintendent or in some similar capacity. — F.R.H.S., 1289 Danforth Ave., Toronto, Ontario.

YOUNG WOMAN WANTED to assist with general housework in small adult family. Good comfortable home (Methodist); liberal wages, duties not heavy. Mrs. J. F. Wilson, 19 Lauder Ave., Toronto, Ont.

### BEE SUPPLIES

LET US QUOTE YOU PRICES on your supplies wanted for 1920. Send your list now. The Ontario Beekeepers' Supply Co., Guelph, Ontario.

### REAL ESTATE

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

FOR SALE—FOUR FARMS IN FAMOUS Annapolis Valley, Nova Scotia, comprising about thousand acres and including two hundred acres of apple orchards. Excellent shipping facilities, via water and rail. Apply Box 22, Canadian Horticulturist, Peterboro, Ont.

### SEEDS, BULBS, PLANTS, SHRUBS

C. KEUR & SONS, Hillegom, Holland. Bulbs of all descriptions. Write for prices. New York Branch, 32 Broadway, Room 1014.

Pres., E. A. Dunbar, Ashtabula, O.; Vice-Pres., Louis F. Miller, Toledo, O.; Treas., H. J. Cheney, Grand Rapids, Mich.; Secretary, S. W. Severance, Louisville, Ky.; Organization Secretary, C. W. Waid, East Lansing, Mich.

In the ball room of the Hotel Statler an excellent trade exhibition was staged, included in the displays being implements, fertilizers, greenhouse equipment, well-grown vegetables and canned fruits.

Among the Ontario growers who attended the convention were Chas. Aymen, Humber Bay; C. Borg, Guelph; Henry Broughton, Sarnia; W. A. Broughton, Whitley; J. B. Campbell, Burlington; Prof. J. W. Crow, Guelph; W. S. A. Eboraw, Beamsville; D. McInnes, London; D. Maynard, Leamington; G. H. Paad, London; E. F. Palmer, Vineland; F. F. Reeves, Humber Bay; Frank Reeves, Toronto; O. J. Robb, Vineland, and M. J. Strong, Guelph.

### British Columbia

Mr. R. C. Treherne, of the Dominion Entomological Staff, in a recent report of a tour to inspect the methods of handling fruit, insects and diseases in the States immediately to the south, gave some interesting facts showing the danger of insects entering the province from the States. The Colorado beetle has at last reached the boundary line and the San Jose Scale, after progressing 30 miles in six years, is near Riverside, Wash. The codling moth is right at the boundary and all that is necessary to bring it to the Okanagan is a series of bearing apple or pear orchards. The lesser clover weevil has reached Vancouver from Seattle and is generally distributed to the south of the Kootenays. It and the alfalfa weevil are both worth watching. The eastern asparagus beetle is on the western coast. The locusts have done a lot of damage in the boundary country, but seem to be swinging to the north-east, away from the lower Okanagan. The fruit inspectors of the North-Western States believe that higher powered spray guns are necessary. Lime sulphur in various dilutions is the most generally used spray.

According to Markets Commissioner Grant, Calgary is "long on fruit and short on sugar." The latter situation has led to but a small amount of canning being done. Crabapples have been arriving green, a condition for which there was no excuse as there were plenty of U. S. apples, and early crabs would not bring as good returns as late ones. Boxes or crates of apple thinning have been arriving in Calgary, which would be more profitable as a byproduct at home.

There was some talk of a Sugar Equalization Board in the prairie provinces, so that sugar refineries could know where to send their product to the best advantage.

Mr. R. M. Winslow was in Montreal representing the western jobbers and B. C. shippers. He placed the acute sugar situation on the prairies before the Board of Commerce so well that the board ordered the immediate despatch of 300 tons of sacked granulated sugar from the Vancouver Refinery, and the same quantity from the Dominion Refinery. One of the purchasing conditions of this contract was that the buyer must buy four tons of B. C. fruit for every ton of sugar and secure the same understanding from the retailer.

If we are to have compulsory potato grading there should be a period from the first of July until the first of September in which the grade requirements should not be unduly severe.—Henry Broughton, Sarnia, Ont.

## FIRE PREVENTION DAY, OCTOBER 9th

# Prevent Fires

### In Your Home and Barn

By removing all Rubbish and Litter. Have your furnace and stove pipes in proper condition. Lightning Rods properly installed are more than 99% efficient.

By removing oily waste and other fire menaces. Prohibit smoking in the barn. Cleanliness, order and forethought are important factors in reducing fire waste.

### In Your Church

Have chimneys properly cleaned out before starting your furnace. Never put on an extra fire except when someone is on hand to attend to it.

### In Your School

By teaching the children the danger of Fire. Before leaving each night see that there can be no overheated stoves or furnace. Teach the children not to play with matches.

### PRIZES FOR ESSAYS

One thousand Ormolu Gold Plated and Enamel Medals will be presented to the pupils in the Third and Fourth Grade of Public, Private and Separate Schools of Ontario for the best essays on

### "PREVENTION OF FIRE IN HOME AND FACTORY"

and a Solid Gold and Two Solid Silver Medals will be given for the three best essays, on the above subject, written by students in Colleges and Universities. Full particulars may be had from your school principal or the undersigned.

### ONTARIO FIRE PREVENTION LEAGUE, INC.

Affiliated with

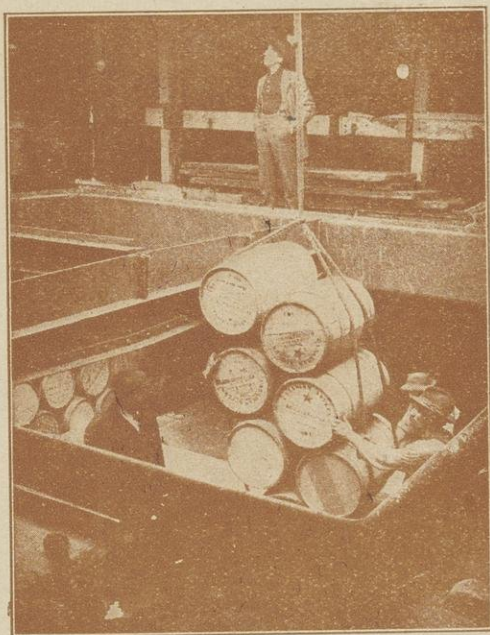
Ontario Fire Marshal's Office, Department of Attorney-General,  
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GEORGE F. LEWIS, Sec.-Treas.



# STANDARD APPLE BARREL STOCK

Government Specifications



*Staves, Hoops,  
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**We can give prompt shipment of dry stock**

For apple packers who do not make their own barrels, or where there is no local cooper, we can arrange to supply apple barrels, through the nearest cooper or from our machine shop at Chatham, with a capacity of 1200 barrels a day.

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Boxes  
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## Greenhouse Joys

THE growing of flowers and vegetables at all seasons would be the greatest pleasure in your home. To give you a perpetual Spring you have often longed for a Greenhouse, where you could outwit Jack Frost and have your old-fashioned Flowers all winter and turn January into May, with Violets, Bulbs and Shrubs in bloom.

But you have perhaps hesitated because you think Greenhouses cost too much. Perhaps they do not.



THIS is only one of the larger types of houses built by us. Many less extensive but equally beautiful have been erected throughout Canada.

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