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Vol. 29, No. 3, March, 1921
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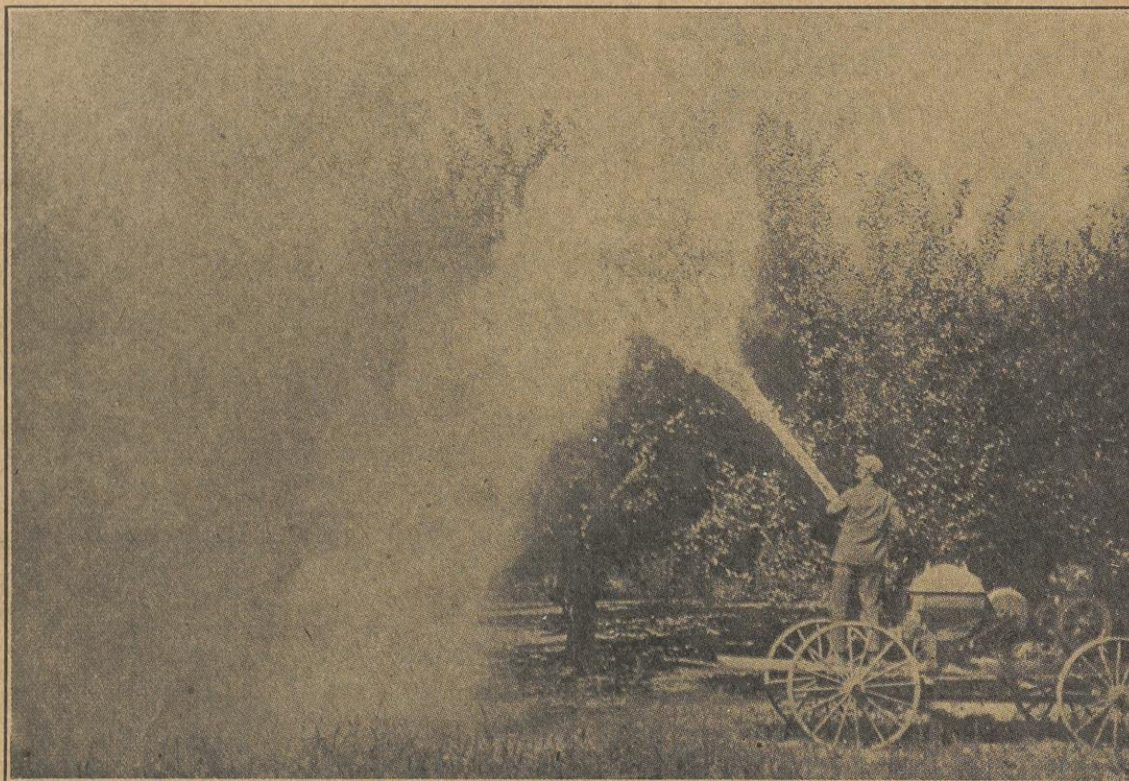
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No. 3

Spring Management of Bees

F. Eric Millen, Provincial Apiarist, O.A.C., Guelph

UNLESS the beekeeper gave each colony an abundance of feed in the fall, not less than fifty pounds per colony, the first manipulation in early April should be to feed all colonies which do not have at least twenty-five pounds of stores left in the hive. Many colonies starve in the spring and many others remain weak because there is not sufficient food in the hive to allow the queen to lay to capacity. One frame of honey is required to produce one frame of brood. To be in condition to give a good surplus honey crop there should be not less than ten frames of brood by June 15th. The syrup for spring feeding should be two parts water, and one part sugar. Care must be taken against robbing when feeding the syrup.

The entrances of all colonies should be reduced, so that only a few bees can enter the colony at one time. This tends to prevent weak colonies from being robbed, and also keeps the colonies warmer. This permits an expanded brood-nest.

Uniting Colonies.

Queenless colonies and colonies which do not cover two frames thickly, should be united with strong colonies. The simplest method of uniting colonies in early spring is to place the weak or queenless colonies on top of strong queen-right colonies, with one sheet of newspaper between the two brood-chambers. This should be completed in the evening. The bees will quickly gnaw through the newspaper and unite peacefully. If American foulbrood is present in the apiary, colonies must not be united unless to other colonies having American foulbrood.

More American foulbrood is spread in the spring of the year through robbing and interchanging frames of honey or brood than at any other time throughout the season. Prevent all robbing, and never interchange combs from colony to colony unless positive there is no American foulbrood present in the apiary. All hives from which the bees have died should be moved to a bee-tight place. A bulletin describ-

ing the brood diseases of bees and their treatments can be secured free, by Ontario beekeepers, by addressing the Provincial Apiarist, Ontario Agricultural College, Guelph, Ontario.

May Manipulation.

When the colonies have been united and have sufficient food, they need no further manipulation until dandelions and fruit trees bloom. This is an important time, and a little attention given to the bees will result in increased profit later. The three manipulations which should be completed then are:—(1) clip the wings of queens; (2) examine every colony for foulbrood; (3) give all strong colonies extra room.

We clip queens' wings to control the swarm, and also that the age of the queen may be known. A part of the two wings on one side are removed with the aid of a small pair of scissors. The reasons for clipping the wings of the queens during this period are as follows: (1) queens are easily found; (2) there is little likelihood of clipping virgin queens; (3) during a honey flow queens are less liable to be killed; (4)

the operation is completed before the swarming season commences.

The broodchamber of every colony is examined for American and European foulbrood. If the colonies became infected the previous fall or secured infected honey, through robbing or otherwise in early spring, American foulbrood will most likely be found at this examination. Preparations can be made for treating the diseased colonies, either at once or at the beginning of the main flow in June.

If European foulbrood is present, it can easily be detected and preparations made, so that it cannot do serious damage. While American foulbrood is apparently only contagious, European foulbrood is highly infectious, where black or hybrid bees are kept. Resistant strains of Italian bees, strong colonies and an abundance of stores will rob European foulbrood of its menace to beekeeping.

Prevent Swarming.

The third manipulation is to add an extra broodchamber to every reasonably strong colony. This is important



An ideal apiary belonging to John Young, Metcalfe, Ontario. A seven-foot cedar hedge protects the west and part of the north side, while the apple trees keep off the direct rays of the sun. Forty hives are placed here.

if the beekeeper wishes to have a strong colony in time for the white honey flow from the clovers in June and July. No queen-excluder is used and the queen has the use of the double brood-chamber until the clover honey flow has nicely commenced. In some seasons when the weather is favorable, the stronger colonies may even need a third hive-body above an excluder, as a super for surplus honey from fruit blossoms and dandelions. In regions where dandelions are plentiful and the colonies are in condition, a good surplus is often obtained from this source. Where sufficient room is given during this period, swarming is retarded, and may not develop at all, thus increasing the honey surplus from the clovers.

Swarming does not usually occur until late June and early July. The swarming fever, however, commences in many colonies during the fruit bloom and dandelion period, because they are crowded and have not sufficient room to store surplus honey and enlarge the brood-nest.

When the clovers begin to yield, it

is time for the beekeeper to crowd the queen into the lower brood-chamber. Take enough frames of the youngest brood, unsealed and eggs, and place these in the upper brood-chamber. Then place the remaining combs and queen in the bottom brood-chamber and place a queen-excluder on top. Next place an empty super and the full hive-body of brood on top of the super.

If the beekeeper wishes to make increase, this body of brood can be removed to a new stand ten days after it was placed on the super. Unless the honey flow has stopped, ripe queen-cells will be found and all the brood will be sealed so that when the field-bees have returned to the parent hive, there will be little danger of chilling the brood. The increase should be examined in three weeks to be sure the queen is laying.

If the beekeeper does not wish to make increase, all queen cells should be destroyed within a week after the brood was placed on top and the combs will be filled with honey as the bees emerge.

Controlling European Foul-brood

THERE is no reason why European foul-brood should ever cause trouble to beekeepers. It has now been shown that preventive measures can be taken, which will make it impossible for this disease to do serious damage in the apiary. The preventive measures include keeping only vigorous Italian stock combined with strong colonies and an abundance of good stores for winter. Beekeepers who have followed this method of beekeeping have found that while there may be an occasional colony in which European foulbrood is present, it seldom becomes serious.

Beekeepers who have not yet been troubled with European foul-brood should certainly accept warnings which have been sent out from this office many times in the past, and Italianize every colony with a good resistant strain of Italian stock. While there may be other resistant races or varieties of bees, the Italian has proven this resistance; and as they possess so many other good qualities, it seems futile to experiment with other varieties. One should also remember that, while a good strain of Italian stock may be resistant, occasional colonies of this stock may not have this resistant quality to a sufficient degree. In this case these colonies should be requeened.

Where European foul-brood is already present, measures should be taken to control the disease, first, by making all colonies strong, and second, by the introduction of vigorous Italian queens. This should be done as early

as possible in the season because, as Dr. Phillips has pointed out, European foul-brood is much more serious in the spring and early summer. When securing Italian stock, no attention should be paid to whether the queens are of the three-banded or golden variety. Color alone should play no part. The resistance of the stock to European foulbrood should be the main consideration. It is not necessary to destroy or disinfect combs, brood, honey or supplies where European foul-brood exists. At the same time, it is a waste of money to attempt to introduce Italian stock to weak colonies when European foul-brood is already present. All weak colonies should be united, so that a strong colony results, and the Italian queen introduced to the united colonies which should now be strong enough to fight the disease.—Extract from leaflet on "Treatment of Brood Diseases of Bee."—Ontario Dept. of Apiculture.

Selling and Moving Bees

Spring is the time when most of the selling and moving of bees occurs. It is important to remember that under the provisions of the "Bee Disease Act" in Ontario, the responsibility for moving or selling diseased bees falls upon the present owner. If you are selling or moving bees this spring, it will be much safer for you to have your bees inspected before removal from their present site. You not only

comply with the law, but you safeguard the interests of all your fellow beekeepers, and show a genuine spirit of honesty and co-operation. Requests for inspection should be forwarded to the Provincial Apiarist at Guelph, Ont.

Better County Inspection

Ralph C. Fretz, Forest, Ont.

THERE has been for several years a feeling among our beekeeping neighbors and friends that we needed more and more thorough inspection. No definite action was, however, taken until last season. At a local demonstration held at Wyoming, Ont., we heard the usual complaints, and decided that something must be done to supplement present efforts. The result was that we agreed to prove to the Department that we needed inspection and were ready to help foot the bill, if necessary. A subscription was started there and then, and every one gave me a signed cheque on a basis of no less than ten cents per hive owned. A canvassing committee was formed, and their efforts so far have secured about three hundred dollars in money, and a thousand dollars in spirit, toward a thorough inspection of Lambton county apiaries.

We are gathering full particulars and working up a case to put before the county council at its June meeting. We are hoping to secure a substantial grant, when the full facts are placed before them. The provincial apiarist has assured us of every assistance to make a clean sweep, so that, with all three sources of strength working on our behalf, we should achieve good results.

One of the great drawbacks to efficient county inspection is the location of the fence corner beehive. We hope to have the county officials co-operate with us in this task, and to be able to furnish the inspectors with full information as to the location of every beekeeper in Lambton county. Much time will be saved by having this information ready before inspection starts.

In the arrangement of the inspection work within the county, I would like to see a demonstration in every locality in which work is to be done, and the work carried on by men who have energy and ability. I am sure our beekeepers will back up, and assist in every way, such inspectors in their work.

The chief result of our movement so far has been to awaken many, who have not yet realized the full danger of inaction. We cannot expect to make progress until this part of our work has been well advanced. The practical results will probably be ready for publication after the season is over.

Treatment of American Foul-brood

A Summary of the Modified McEvoy Plan

So far as is known, once American Foul-brood appears in a colony, it does not disappear unless the colony is treated. It is true that if the infection is slight, it may take two or three years to destroy the colony. The beekeeper should remember, however, that while this is taking place, the infected colony is a source of danger to all healthy colonies within a radius of two or three miles, if the honey from this colony should be robbed by other bees.

To summarize, the treatment may be said to consist of the removal and separation of the bees from the contents of the infected hive. The procedure is as follows:

1. A new or clean hive is made ready with all but one of the frames containing full sheets of foundation.
2. To these should be added one dry comb, one in which no brood has been reared preferred.
3. This dry drawn comb is placed in the centre of the newly prepared hive, and left until twelve hours after treatment, when it is removed and burned, and replaced with a full frame of foundation.
4. Together with this prepared hive, the beekeeper should have an empty hive complete with cover.
5. After the infected colony has been smoked slightly, it is removed from its stand; and the newly prepared hive, containing the one dry drawn comb and full sheets of foundation, is placed on the stand now vacant.
6. In front of this hive the beekeeper should spread a newspaper, weighed down at the corners with stones.

7. The next step is to transfer all the bees from the infected combs into the newly prepared hive, and this is done by shaking the bees from the infected comb on to the newspaper in front of the clean hive. If necessary a wing or feather can be used to aid the beekeeper in brushing the bees from the infected combs.

8. These infected combs should then be placed into the empty hive, which is near by and kept covered.

9. After the bees have been shaken from the infected combs, the beekeeper should dig a hole and burn the infected combs and wing or feather. By this time the bees will have entered the clean hive and the paper, on which the bees were shaken, should also be burned.

10. Twelve hours after the colony has been treated, the dry drawn comb, which was placed in the centre of the clean hive, should be removed and burned, a full frame of foundation taking its place. It will be found that the bees have stored, in the comb, honey which was carried from the infected hive. This is the object of using the dry drawn comb.

11. It is not necessary to destroy cover, hive-body or bottom board, as the inside surface of these can be slightly scorched, and they are then fit for further use.

It will be seen that no mention has been made of saving the brood or honey from the infected colony, and we do not advocate that this be done, as it has meant the recurrence of the disease in

many cases. Where there are a good many slightly infected colonies and an abundance of brood, if the beekeeper will take precautions to see that all robbing is avoided, it is possible to save this brood by placing two or three hive-bodies filled with frame of brood over a slightly infected colony, which can be treated two weeks later. The beekeeper should remember, however, that if this is done, and the colonies already treated, or other colonies, rob the colony on which the brood is placed, infection will be spread.

Many beekeepers, who find an occasional colony affected with American foulbrood, prefer to take no chances, but suffocate the bees and then burn the dead bees and contents of the hive. This is a sure cure.

Where the beekeepers have a large number of colonies infected with American foulbrood, the situation is somewhat different, and in this case, it might be economical to render the combs into beeswax. Even then it would be unwise to do this, unless the beekeeper could be quite certain that these infected combs and honey be stored in an absolutely bee-tight place. Unless this can be done, the saving of the brood and combs might be a costly procedure to the beekeeper.

Time for Treatment.

As robbing is very serious where American foul-brood is concerned, the beekeeper will at once see that treatment must be completed during a honey flow. If the colonies are badly infected and weak, it is much better to unite two or more diseased colonies ten days to two weeks before treatment. This is done in the evening by simply placing the two brood-chambers together with a sheet of newspaper between, and allowing the bees the lower entrance only. No notice need be taken of the queens, as one will usually survive.

Where the colony is badly infected, it will often pay the beekeeper to treat the colony during the fruit bloom and dandelion flow; and then if necessary feed a thin syrup between this flow and the main flow from clover. On the other hand if the infection in the colony is slight, then it will pay to wait until the main flow commences, so that as much as possible of the early brood can emerge. From this the beekeeper can judge as to the best time for treatment.

If only a small percentage of the colonies in the apiary are to be treated, it is much safer to defer the treatment until evening when the bees are not flying.

If the majority of the colonies have to be treated, then the treatment for all should be completed in one day.

Precautions should be taken to see



Interior of the yard of Mr. Stevenson, Woodlawn, Ontario, which is surrounded by an eight-foot fence. The bees are packed in single cases, and left that way the year around.

that the bees from the infected colonies, which are being treated, do not drift to nearby healthy colonies. If other healthy colonies are near and the treatment is completed in the evening, the entrances of these colonies should be closed until the treatment is completed.

If colonies are found with American foulbrood in the fall of the year, and the beekeeper has solid combs of honey from other healthy colonies, it is an easy matter to treat these infected colonies. At the close of the brood-rearing early in October and while still warm enough for bees to fly, the treatment should be completed.

Remove the infected colony from its stand and place a new or clean hive, containing sealed frames of honey in its stead. Now shake the bees from the infected hive as outlined in the earlier treatment. Remove and burn the infected combs and honey and scorch out the hive. By doing this, the beekeeper will oftentimes eliminate a chance for the disease to spread in the spring of the year through robbing, and the treated colony will be in shape to prepare for the main flow without hindrance. In all cases where American foulbrood is being treated, robbing must be avoided.

Disinfectants and Germicides.

So far as is known, there is no disinfectant or germicide on the market today which will eradicate American foulbrood from the combs, so that beekeepers are wasting time to attempt to treat infected colonies by other than the removal of the infected material. Beekeepers who attempt the use of disinfectants or germicides for the eradication of American foulbrood are a source of danger not only to themselves but to their neighbors. To be on the safe side, all combs used in connection with the colony infected with American foulbrood, should be rendered into wax, and the bees given full sheets of foundation.

The Ontario Department of Agriculture has been conducting a series of short courses under the County Representatives throughout the Province. Among the special lecturers sent by R. S. Duncan, Director of Agricultural Representatives, were Prof. Millen, W. A. Weir and Wm. Agar. Twenty-six courses were visited, and the elementary principles of beekeeping introduced to the young farmers attending. The average attendance has been in the neighborhood of 25 persons. Most of the students were from 18 to 25 years of age.

Watch the cellar temperature! A constant temperature of from 40 dgs. Fahr. to 43 dgs. F. will give the best results.

Bees Help the Fruit Grower*

BEFORE the fruit grower can get a crop of fruit, or the farmer a good seed crop, it is necessary for pollination to take place; that is for the pollen grains to come in contact with the pistil. In other words, there must be a conjunction of the male and female elements before the fruits set or the seeds form. Atmospheric and soil conditions must also be suitable, otherwise, despite an excellent show of bloom, a small crop may result.

The agents of pollination include wind, water and insects. As far as fruit growers are concerned, wind and water aid little. Insects must be depended upon to do the greater part in carrying the pollen or male germ. There are a number of wild insects which visit the blossoms, and in this way aid in increasing the crop of fruit. We can control neither the position or numbers of these, however. One year there may be an abundance of wild insects, enough to complete all the pollination necessary to set a good crop. On the other hand, parasites and disease may so reduce the wild insects that there may not be enough to make a good crop certain.

In the case of honey bees, the beekeeper or fruit grower can control not only the numbers, but also the place where the honey bees should be present. In a year when there is an abundance of sunshine during the blossoming period honey bees may not be a necessity. On the other hand in a year when the weather conditions are such that there may be only a few hours of sunshine in short periods, the value of the honey bee cannot be overestimated in the increase of the fruit.

It is also known that when a fruit blossom is properly pollinated, it increases the size and improves the shape of the fruit. We find in the case of apples, that the seeds or pips are well formed and evenly distributed when perfect pollination takes place, otherwise the fruit is smaller and not symmetrical in shape.

In a good colony of honey bees during the fruit bloom season, there might easily be 30,000 or more worker bees visiting blossoms. It is known that worker bees make an average of from four to six trips a day, and possibly visit an average of six to twelve blossoms on a trip. In this way it can be seen that hundreds of thousands of blossoms must be pollinated by the honey bee, which may not be pollinated otherwise.

Experiments have been conducted on numerous occasions by covering, with

fine mesh gauze, the limbs of certain fruit trees, before insects had any opportunity to pollinate the blossoms. In all cases, it has been demonstrated that few, if any, fruits would set on the covered limbs. On the uncovered limbs, where honey bees and other insects were able to visit the blossoms, a good crop resulted. These experiments have been conducted on numerous occasions and each showed the same results.

Insects and Self-Sterile Fruits.

In the case of some varieties of fruit which are self-sterile, honey bees or other insects are essential. This is very marked with some varieties of apples and also sweet cherries. On the other hand, it must be understood that honey bees or other insects may not be able to pollinate blossoms, if the blocks of fruit of any one self-sterile variety are quite large, and other varieties with which they might be crossed are not planted near. In this case, the bees would probably only cross-pollinate those trees nearest the other varieties.

Cucumbers under glass cannot be grown on a commercial scale, unless bees are kept, because the male flowers, which carry the pollen, are entirely separate and distinct from the female flowers which bear the cucumbers.

It has also been found where cranberries are grown, that, up to a certain number of colonies of bees per acre, the cranberry crop is increased.

Bees have sometimes been blamed for the destruction of fruit by sucking juices. Wherever these complaints have been investigated, however, it has been found that some other agency, or disease, started the trouble and the bees completed the work. In the case of grapes, a tiny warbler is known to visit the vineyards in early morning, puncture a small hole in the fruit. Later in the day, the bees will visit the grapes and suck the juices. In the case of peaches, pears, plums and other fruits, it has been found that the honey bee will not puncture the skin of sound fruits. Although the fruits may be ripe and the bees starving, they will not touch the fruits until the skin is broken by some other cause.

It must be remembered, also, that honey bees will not even suck the juices from fruits which are already damaged, if nectar is available. It is only in the case of a cessation of the honey flow and the skins of the fruits being already broken, that the honey bee becomes a secondary agent in sucking the juices from them.

Some well-known authorities in the United States estimate the value of the

*A paper read by F. E. Millen, Provincial Apiarist, before the Niagara Peninsula Fruit Growers' Convention.

honey bee in increasing crops of fruits as being greater than the honey crop which the beekeeper secures. In summing up, then, we might say that bees act as an insurance to the fruit grower and the man who is raising clover or buckwheat for seed. In the years when they may not be necessary, they do not harm, but in the years when other conditions are unfavorable, they are of great value. It must be understood, however, that the honey bees or other insects cannot give the fruit grower a set of fruit if other conditions are unfavorable, such as soil, location, variety or weather.

THE EDITOR'S DESK

We are on the threshold of another active season with the bees surrounded by conditions which have not been present during the past six seasons. We must look forward and work to retain the advantage honey has secured on the home market during the war. Beekeepers must keep in view the fact that wartime conditions are now a thing of the past. Honey next fall will enter in all probability into much more strenuous competition with preserves, jams, jellies, and syrups for a place on the household table.

Quality in honey stands for good color, good flavor and good body and there are many little kinks in the production of honey which will add materially to securing quality. We cannot expect to retain our present market, and develop further demand without studying how to produce the best honey. Extracted honey producers must insist upon well capped combs before attempting to extract, and comb honey producers upon well-filled, well-attached sections which are free from travel staining.

Get Together

WE cannot discount the necessity of banding ourselves together to combat disease among bees. It is becoming more apparent as time goes on that the Government can only efficiently help those beekeepers, who will help themselves in the solving of this particular problem. The Lambton County Beekeepers' Association of Ontario have taken a step in the right direction, and the article in this number from its secretary, R. C. Fretz, will be especially interesting to the officers of other local organizations.

No matter how excellent our legislation for the control of bee diseases, local co-operation by the progressive beekeepers is essential to a thorough

job. Local organizations such as the county associations can do much toward educating local authorities as to the value of their profession to the community and the constant danger to which they are exposed by careless beekeepers. They can thus secure sympathetic action from local authorities in the way Mr. Fretz suggests, viz., a county grant toward inspection costs, and the assistance of the local assessor in listing every beekeeper within the county. The experience in Ontario has made it quite plain that every beekeeper in inspected areas must be visited, his colonies examined and treated before a clean-up can be effected. After the work of the inspector is completed, the local organization must carry on by watching the movement of bees within the county, particularly of full colonies or nuclei being brought in to supplement the number already operated. Any cases of importation or suspected disease should be promptly reported to inspection headquarters, thus giving the provincial authorities a chance to keep the territory they have worked over clean.

A local movement toward healthier bees will result in renewed local enthusiasm, and we cannot entirely foresee the value which may result. The disease problem demands local action. Once the free discussion of this problem materializes into active measures, and local beekeepers learn the financial advantage of close co-operation, the "get together" spirit will reach out and tackle other problems common to them.

Waterloo Beekeepers Meet

The annual meeting of the Beekeepers' Association was held on March 4, A. A. Roos presiding. Members were present from Guelph, Elmira, Ayr, Galt and the surrounding country. Kitchener was also well represented. The meeting was an enthusiastic one. The local speakers were A. J. Cundick and G. S. Jones. The main speaker of the evening was E. E. Millen, Provincial Apiarist of Guelph O. A. C.

Mr. Millen said that Ontario was one of the most favored locations as far as honey production was concerned. He also stated that when handled by highly experienced beekeepers, good colonies have been known to average as high as 250 pounds of honey per colony for several years in succession. The careless or indifferent beekeeper, however, never could make bees pay like that and very often was a menace to his neighboring beekeepers, allowing diseases to spread unchecked.

After the address a light lunch was served and a short program of music and recitations provided. The officers for the coming year are: President, G.

S. Jones; 1st Vice-Pres., A. C. Moyer; 2nd Vice-Pres., H. Gardner; Sec'y Treas., H. J. Zeller; Directors—Galt, A. J. Kinzie; Ayr, R. McGrogan; Baden, W. C. Brueckner; Preston, Miss J. Woods; Kitchener, Mrs. C. Walker; New Hamburg, J. Garland; Waterloo, A. C. Moyer; Wellesley, A. Koehler; Elmira, A. Lorch; St. Jacobs, E. M. Martin.

It was decided to hold the next meeting at the Apiary of H. Gardner, Galt.

DOINGS IN BEEDOM

The Eleventh Annual Short Course in Apiculture given at the Ontario Agricultural College was held from January 11 to 22. Over 25 students attended and received an elementary training. Prof. F. E. Millen was assisted by Messrs. R. H. Kelty, of Michigan State, U.S.A., and W. Agar, W. A. Weir and Jas. Armstrong, of Ontario. The appreciation of the class for the course was expressed in the presentation of a handsome pipe and case to Prof. Millen.

Since the last issue of The Beekeeper the Toronto Beekeepers' Association have held two meetings in the Canadian Foresters' Hall, 22 College St., Toronto, Ont. The first meeting took place on February 18, with F. W. L. Sladen, Dominion Apiarist, as the principal speaker. His topic was, "Short cuts in the Apiary." The last meeting of the association was held March 11, with Prof. F. E. Millen, of Guelph, Ont., speaking on "Spring Management and Control of American Foulbrood." Both meetings were well attended.

The secretary of the Association announces that the next meeting will be held at the same place on Friday, March 25, when J. L. Byer, of Markham, will be the guest.

A course in beekeeping has been included in the plans of the Association Schools conducted by the Toronto Young Men's Christian Association this winter. C. W. Horton, B.A., who has been keeping bees on the outskirts of Toronto for the past fifteen years, is in charge of the class covering the work in 32 lectures—two every week.

European foul brood is spreading rapidly in Ontario. The only insurance is strong colonies of Italian bees.

"The beekeeper in the tropics never sees colonies as large as we usually have up here. The tendency to swarm as we come northward is, therefore, intensified."—Geo. S. Demuth

Niagara Growers Convene

F. H. Pattison, Winona, Ont.

ON February 23rd the Niagara Peninsula Fruit Growers' Association opened its annual spring convention at Winona, with a large attendance of fruit growers. The chief speakers were—Geo. E. McIntosh, on "Transportation Problems"; Prof. Macoun, of the C. E. F., Ottawa, on "Horticultural Work at the Ottawa Farm"; Richard Wellington, of Geneva, N.Y., on "Grape Investigational Work in New York State"; and W. M. Fletcher, Clarkson, Ont., on "My Experience in Growing Berries."

Mr. McIntosh stated that the transportation situation was serious, and the net earnings of Canadian railways discouraging. Our distribution is wrong, and to get efficient service at reasonable rates, the co-operation of the railways is essential. "If the nation is to prosper," said he, "the railways must be prosperous." From coast to coast there was no objection on the part of shippers to a reasonable raise, but the recent raise in express rates was apt to prove quite a burden for the fruit and vegetable growers to carry. The N. P. F. G. Association in the past has been a great help to the growers in keeping control of railway tariff regulations. He favored putting the case before the railway and express companies.

He suggested application for special rates on fruit shipped to Winnipeg, Brandon, etc., as he was impressed with the possibilities of shipping Niagara district fruit into Manitoba. At present 144 per cent more American than Canadian fruit goes into Manitoba. During 1920, 33 million pounds of fruit were shipped from the Niagara district, and Winona was the second heaviest shipper in the district. Ontario ships double the tonnage of fruit that British Columbia does. We are not getting the best service in refrigerator car equipment owing to detentions by consignees. Last season, at the time of greatest need, 39 cars were held from three to ten days, resulting in a loss to shippers and an added cost to the consumers. The box car situation was nearly as bad, 4,000 cars being detained four days each. To prevent this, legislation is needed. Next season the C. P. R. is going to have 500 additional brine tank cars, and the G. T. R. a number of additional refrigerator cars.

Prof. Macoun, referring to the horticultural work at Ottawa, said, "Niagara fruit growers ought to move to Ottawa, as the profits in growing Duchess, Wealthy and McIntosh apples, also currants and plums, are twice as much there. They are growing improved types of native plums at Ottawa, that ripen earlier than those in the Niagara district, and can be harvested by shaking the trees into sheets, the plums separating from the stems. The chief work at Ottawa is in breeding new varieties of fruits and vegetables. They have bred four good quality seedlings from McIntosh to cover the season—Melba, which ripens in August; Joyce, in September; Patricia, a little later, and Pedro, later still. They have a productive seedling gooseberry called "Mabel." For five years it has had 3,000 lbs. more fruit per acre than Downing. In black currants, "Kelly" heads the list. It has averaged 5,898 lbs. per acre for 15 years. Two raspberry seedlings very early and hardy are "Count" and "Brighton." A new strawberry, "Portia," tested at Vineland, proved the best canner of 30 varieties. Prof. Macoun said that a grape, which originated

at Port Dalhousie called "Lincoln," ought to be put on the market, as it was of good quality, a better shipper than Concord and wonderfully productive.

Richard Wellington, of Geneva, N.Y., speaking of investigational grape work in New York State, said that they had tested three root stocks for grapes that came from California—"St. George," "Glory," and "Cleverdon." Nineteen varieties were grafted on these roots. In experiments as to yields from 1908 to 1911 Cleverdon gave slightly the best, all running three tons and over to the acre. In 1914 Concord gave seven tons to the acre on Glory stock, and only three and a half tons on its own roots; in 1920 on Glory roots seven and one-tenth tons, and on its own roots five tons. The grafted vine far out-yielded the American vines on their own roots.

In fertilizer experiments, a complete fertilizer containing nitrogen, potash and phosphoric acid, plus lime, gave a better yield every year than a potash and phosphoric mixture. For wood growth applications of nitrogen gave the best results. Potash applications increased the early ripening of the fruit.

W. M. Fletcher, of Clarkson, told of results from his berries. His Cuthberts yielded him almost 7,000 quarts from 1¼ acres, and his Herberts, on somewhat heavier land, about 10,000 quarts last year. These are not so good for shipping, but were very good for jam. The ideal soil for strawberries at Clarkson is a sandy soil with a quicksand bottom. They have had as high as 13,000 quarts of strawberries from an acre. In conclusion, Mr. Fletcher stated that the Glen Mary strawberry had bought all the automobiles in Clarkson. He believed that much buying of fruit will be done in future by merchants going into the districts with motor trucks. The cement highway has been the salvation of the fruit industry in Clarkson. A network of good roads that will support a truck is needed all over the Niagara Peninsula.

Meeting at St. Catharines.

Meetings were held, with a large attendance, at St. Catharines on February 24. Prof. Caesar said that Niagara Peninsula growers were similar to those in the other districts in Canada. While the first spraying was done most efficiently, the second spraying was either omitted or was only half done. Spraying is an important factor in the upkeep of the orchards, and he strongly urged growers to keep their orchards and fruit clean by spraying three times.

Resolutions opposing the enacting of "Daylight Saving" and the recent increase in freight rates were adopted, also a resolution favoring the acquisition of the N. S. and T. Railway by the Hydro.

Howard Cruise, of St. Catharines, spoke briefly on the new organization, the Niagara Peninsula Growers, Ltd. He said that growers having a \$2,000 crop or less last year were entitled to purchase one share, etc. A grower having a crop of \$10,000 or over can hold five shares; each share is valued at \$100, but only \$20 is payable in the initial payment.

Speaking of co-operation, G. A. McCollum of Rochester, N.Y., assured the growers they were starting out in the right direction to solve their difficulties by adopting co-operation. He urged co-operation between the growers of the United States and Canada in providing people with the best fruit that can be grown. In Niagara County, N.Y., fruit had been feeding only

five markets and there was no care in the quality. Now, however, co-operative packing houses have been established and the crop standardized. In the co-operative system, the peaches are delivered to the packing house where the owner loses his ownership, the peaches being sold by one salesman. It has been found that the association can make more money for the growers than the growers can make by their individual efforts. Co-operative packing houses will all be failures unless the fruit is all pooled under one sales agent. All their fruit is graded by machinery. Elbertas are grown almost exclusively in New York State and are shipped in bushel baskets, but they hope to adopt a better package. All fruit ought to be pre-cooled before shipment. In re-selling tomatoes to the canning factories, Mr. McCollum stated, that no tomatoes would be sold to the canners this year at less than \$20.00 per ton. The cost of growing tomatoes in Niagara County per acre before picking has been established at \$111.89, the cost of harvesting the crop and delivery at \$95.14. From the 115 acres on which the test was made the grower made \$18.56 an acre.

In C. W. Baxter's absence, J. R. Hastings, chief fruit inspector for Eastern Ontario, told the members that an opportunity was awaiting them in the British market, but that in order to ship peaches across the ocean they would have to be carefully packed in boxes. He outlined the existing regulations with respect to packing fruit in open packages. Anything was allowed that would carry fruit last season, but nothing that does not comply with the Government regulations will be allowed this season. The growers asked why the manufacturers were not held responsible for the baskets and not the growers. Mr. Hastings said that both manufacturers and growers were responsible.

Members of the Wenatchee Valley Traffic Association, on the Pacific Coast of the United States, recently passed resolutions advocating an increased duty on apples imported from Canada into the United States unless the present duty of 30c a box charged by Canada on fruit from the United States is lowered. The United States duty on apples from Canada is 10c a box.

In his report to the Dept. of Trade and Commerce, Mr. J. Forsythe Smith, Fruit Commissioner, states that as a means of popularizing Canadian fruits in Britain it has been proposed that a "Canadian Fruit Week" be held this year, included with which there might be a national apple day as a part of a general advertising campaign. Mr. Smith reports that a large part of the consuming public in England cannot afford to buy apples at 14 to 20c a lb, the price which has prevailed. In some cases, dealers have been making as high as 90% over cost when apples have been at that figure.

Apple shipments from Nova Scotia this season up to a recent date were 732,613 bbls. as compared with 376,137 bbls. the same period last year. From \$5.00 to \$7.00 a bbl. had been obtained by the growers for this fruit.

A select committee of the Ontario Legislature has been appointed to report upon the export trade in fruit. The committee will investigate conditions relating to the trade during the summer and fall months with the object of reporting thereon by the time the next session of the Legislature is held.

Ontario Fruit Growers Survey Year's Work

Central Agency for Selling Fruit Proposed — Ontario Nursery Control Act Discussed—Annual Convention of Ontario Fruit Growers' Association Held in Toronto—Resolutions Passed

RESOLUTION to improve conditions affecting the production and marketing of fruit in Ontario was manifest at the annual convention of the Fruit Growers' Association of Ontario, which was held in Toronto February 16th and 17th. The occasion afforded an excellent opportunity for the fruit growers and fruit authorities who were present to take stock of the situation and lay plans for the future. The more important decisions reached were crystallized in a series of resolutions. Among the matters dealt with in these were the following:

Dominion Fruit Commissioner C. W. Baxter, of Ottawa, pointed out the need for the formation of a Central Selling Agency with sub-agencies in eastern and western Ontario. He showed that last year large orders for fruit had been received from South America which could not be filled because there existed no organization to handle them, and the quantities ordered were too great for individual growers to supply. A resolution was passed asking the directors to appoint a committee to consider and forward the formation of a selling agency along the lines proposed by Mr. Baxter.

The Association went on record as being in favor of the formation of a Carrier's Protective Service, to be put into force at the earliest possible date. The object of this service is to prevent the heavy losses sustained annually due to over-heating or frost on shipments of fruit during the winter months. The inauguration of such a service is advocated in an application now before the Dominion Railway Board.

In the event of a Royal Stock Show being held in the new Arena, in Toronto, next December, the directors were authorized to arrange for the holding of a National Apple Show, and to ask the Federal Department of Agriculture to hold a Dominion conference of fruit growers at the same time and place.

The appointment of a strong committee of fruit growers to watch any changes that may be proposed or made in the present tariffs on fruit coming from or going to the United States was urged. It was suggested that the members of the committee should keep in close touch with the Dominion Fruit Commissioner at Ottawa.

JONES-WEED PROCESS COMB FOUNDATION.

All comb foundation manufactured by the JONES-WEED PROCESS is made from absolutely pure, sweet smelling beeswax. It is manufactured by the method which preserves as far as it is possible the sweet odor and yellow color and texture of the wax—by texture we refer to the hardness or softness which is influenced by the degree of heat which the wax is manipulated at. All JONES-WEED PROCESS is well made, well packed, and should reach you in good condition. We will make up any beekeepers' wax with the same care that our stock goods are made. We solicit your orders.

REDUCED PRICES.

We are prepared to quote very favorable prices on comb foundation or wax to be made up. This applies to hives, frames and other articles in our catalog as well. Send us a list of your requirements for our quotations.

BEES.

We are booking orders now for Italian bees, in pound packages and full colonies, bred in our own yards for shipment the latter part of May, weather permitting, and in June and July. We advise that you place your orders in good season, as we fill orders in rotation as received. No reduction in prices of bees.

F. W. JONES & SON

Manufacturers of Beekeepers' Supplies,
and Breeders of Bees and Queens.
BEDFORD - - - QUEBEC

Send Your Wax

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"CHRYSLER'S PROCESS" Comb Foundation

It is the best by test kind. We have it for sale in any quantity. Get your order in early. Wax always wanted for cash or trade.

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CHATHAM - - - ONTARIO

BEEKEEPERS!!!

10% Reduction on all Hives, Supers and Frames, Reduction in Foundation

Let us have your order NOW.
We are in a position to make prompt shipment.
Satisfaction positively guaranteed.
Write us to-day.
Catalogue sent on request.

The Canadian Bee Supply and Honey Co., Ltd.

Head Office and Factory—Aurora, Ont.
Branch Salesrooms: 87 Jarvis St., Toronto.

Pure

Italian Queens

	Six	Ten
Untested	\$1.75	\$1.50 each
Price includes American Exchange and safe delivery guaranteed.		

If wanting queens for May or June delivery, better order now—don't be disappointed by delay. My queens come from the best breeders in the Southern States and I can strongly recommend them.

EDWIN V. TILLSON

TILLSONBURG - - - ONTARIO

Keep Bees Right

**Right BEES and the
Right EQUIPMENT
At the Right PRICE**

is what we sell. We make a business of setting up apiaries—large or small. If you are beginning or extending your apiary write, or, better still, see us. Explain your plans fully and we will advise and quote on equipment, and bees to fit your requirements.

**We Want to Buy
FULL COLONIES
SWARMS AND
COMPLETE APIARIES**

during 1921. Let us have full particulars of your offerings.

**Single Wintering Cases and
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CONSULTING APIARISTS.

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We have a large stock of all sizes

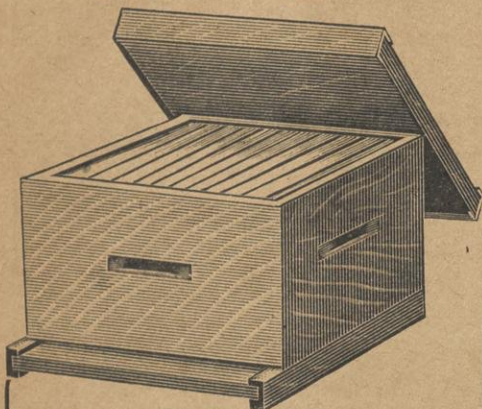
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FERN OR BULB PANS**

**AZALEA POTS
and Rimless Pans**

Order Filled Promptly.

Send for Prices

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

"JUMBO" HIVES!

The 10 ft. "Jumbo"

We have not been listing this style of hive in our regular catalogue, but we can supply them. It is 2" deeper than the standard Langstroth. The same cover and floor board and the regular 10 ft. super can be used, giving a larger brood chamber fully equal to the 12 ft. Langstroth, but much easier handled. Write for prices. We have also a line of well-made seconds in standard hives and frames that we are clearing at lower prices. Write us about these, too.

HAM BROTHERS COMPANY, LTD.,
Brantford, - - - Ont.

COMB FOUNDATION

I have for sale one hundred pounds of medium brood foundation for full depth Hoffman frames. Packed in boxes of five pounds each as it came from factory. Write me.

S. A. BONHAM,
Grimsby - - - Ontario.

The directors were requested to confer with the Minister of Agriculture in regard to securing an extension of educational work in Ontario in the interests of the fruit industry.

The Department of Agriculture at Ottawa will be asked to have manufacturers of six to eleven quart baskets put their names on the bottoms of the packages so as to facilitate their inspection for defective making.

The appointment of a permanent transportation committee, of not more than five or less than three, was advocated.

It was decided that it is not in the best interests of the fruit industry to have compulsory loading to higher freight minimums than those now provided by the regulations now in force, and that consideration should be given to the lowering of minimums for certain varieties of fruit by express shipments.

Officers Elected.

The following directors were elected, they to elect the president and vice-president from among themselves: W. T. Macoun, Ottawa; F. C. Keeler, Brockville; R. W. Ireland, Wellington; H. Sirett, Brighton; W. J. Bragg, Bowmanville; C. R. Terry, Clarkson; David Allan, Grimsby; A. A. Craise, St. Catharines.

North Carolina-Bred Italian Queens

of the Dr. C. C. Miller strain of three band Italian bees, gentle and good honey gatherers. From May 1st to July 1st.

Untested, \$1.50 each; \$15.00 per doz.

Sel. Untested, \$1.75 each; \$17.50 per doz.

Tested, \$2.25 each; \$22.50 per doz.

Sel. Tested, \$3.00 each.

Safe arrival and satisfaction guaranteed.

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HARDY FLOWERS

Plant perennials for permanent effect. Our list includes only the most attractive and hardiest for Canada. All others discarded.

TRY THIS BARGAIN LOT.

12 strong plants, \$1.00.

1 Agrostemma, Rose Pink, 1 ft.

1 Aquilegia, fine double, 2 ft.

1 Iris, select lovely sort, 1½ ft.

1 Geum, Indian red, 1 ft.

1 Alyssum, hardy yellow, 1 ft.

1 Gaillardia, blanket flower, 2 ft.

1 Delphinium Belladonna, everblooming, light blue, 3½ ft.

1 Anthemis Kelwayii, yellow marguerite, flowers till frost, 1½ ft.

1 Tritoma, red hot poker, 3 ft.

1 Anchusa, giant cape forget-me-not, 3½ ft.

1 Bocconia, Plume Poppy, 6 ft.

1 Hollyhock, double mixed, 6 ft.

Too heavy to mail, must be sent express. To distant points where express would be heavy, will mail smaller sizes for 40c extra.

12 Cowslips for a border..... \$1.00

10 beautiful Iris (named) 1.00

20 Raspberries, choice 1.00

100 Strawberries, self-fertilizing.. 1.25

CACTI.—I have received several shipments of rare varieties of Cacti, direct from their desert homes. I can supply nice collections of 10 to 15 plants at \$2.00 to \$25.00, according to size, or grand single specimens or pairs for lawn or conservatory.

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The Flower Bargain Man,
WELLER ST. - PETERBORO, ONT.

HONEY

CONTAINERS

We have prepared a large stock of all sizes and therefore will be able to give

PROMPT SHIPMENT

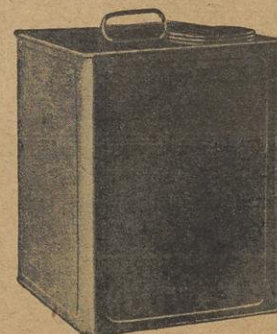
Present indications are that the season will be an early one and that the demand for honey containers will be heavy. Insure your delivery, therefore, by placing your order immediately.

Our Illustrated Circular and Price List has been issued. Did you receive your copy?

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TORONTO - - - CANADA



rines; J. E. Johnson, Simcoe; W. M. Grant, Cedar Springs; H. K. Revell, Goderich; J. F. Elliott, Oxford Centre; W. L. Hamilton, Collingwood; Prof. J. W. Crow, Guelph, and E. F. Palmer, Vineland Station.

President's Address.

President David Allen, of Grimsby, stated that the year 1920 would stand out in history as the year of greatest production in Ontario fruit growing. Fruit growers, however, did not receive the full benefit of the big crops, owing to a deflation in prices for fruit and increases in the cost of containers. The troubles of the fruit growers were increased by a shortage of labor, poor transportation facilities, and poor distribution. In order that such conditions might be improved in future, the adoption of co-operative methods was advocated.

Financial Statement.

The financial statement presented showed a balance on hand of \$2,213.47. This was due mainly to the fact that owing to a change in the date for the holding of the convention, no convention was held during 1920. The receipts had been \$2,915, and the expenditures \$701.00.

Nursery Control.

Keen interest centres around a discussion led by Mr. W. J. Bragg, M.L.A., on the subject, "The Ontario Nursery Control Act." The Act is one which was introduced in the Ontario Legislature by Mr. Bragg with

APPLE BARRELS

New, standard-machine made, best quality. Delivered anywhere in Ontario and Quebec. Write for prices. Contracts made with Fruit Associations and others.

JOHN HAYNE

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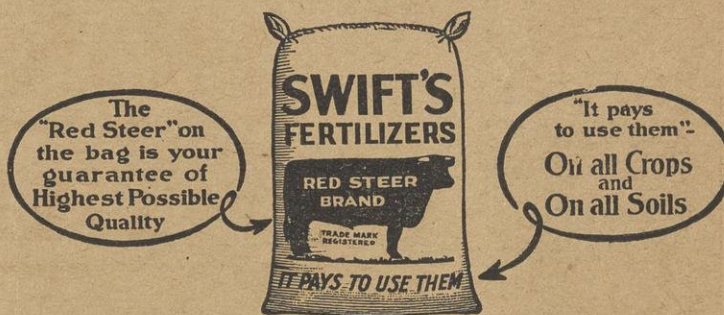
A SAVINGS account is the foundation for the home you want to own. You can't buy the home unless you save, and you won't save without a bank account.

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More and Better Corn



Swift's Red Steer Fertilizer gives corn a quick start, causes rapid steady growth, increases yield, and improves quality.

It often means the difference between hard and soft corn because it *hastens maturity*.

Use Swift's Red Steer Fertilizers on every acre.

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MAKING TWO BLADES GROW W




SHUR-GAIN fertilizer means good growth, high grade fruit and lots of it. SHUR-GAIN will pay you, too.

You Can Get More Use Gunns S

SHUR-GAIN will give the trees a
SHUR-GAIN causes fruit to develop
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AND—Fruit borne by trees properly

WHICH Large Acre Yields and

The difference between the two wheat sheaves at the right (from an actual photograph) shows how small yield can be changed to large yield and profit by the use of Gunns fertilizer. These sheaves were cut from the same field the same day. The larger one was fertilized with Gunns "S" and the smaller one unfertilized.

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SHUR-GAIN FERTILIZERS

HERE ONLY ONE BLADE GREW BEFORE

Get Money From Your Orchard SHUR-GAIN Fertilizers

steady supply of plant food throughout the growing period.
to and mature uniformly.
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nourished by *SHUR-GAIN* is superior in size, color and flavor.

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Make sure of your profit. Order your "Shur-Gain" Fertilizer now.
Gunns "Shur-Gain" fertilizer is sold throughout Ontario by representatives who are farmers and are using "Shur-Gain" fertilizer themselves. Every farm is a factory. Keep your factory running at maximum capacity.

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1246 Extra Bushels of Apples

Per Acre in 10 Years.

FERTILIZING the Apple Orchards of Pennsylvania Experiment Station yielded, for ten years, an average increase of 124.6 bushels per acre.

The average yields of Mr. H. Sirett's Orchard (Brighton, Ont.), unfertilized for 5 years, was 308 bbls., and for 2 years fertilized was 668 bbls.

"The orchards we have fed the heaviest are giving the highest returns, and we are going to continue the use of Fertilizers," write Messrs. Mitchell Bros., Clarksburg, Ont.

THE Plantfood you add in the Spring not only has a marked effect on this year's quality and yield, but actually determines the set and vigor of fruiting buds for next year.

Be Wise and Fertilize

For Apple and Pear Orchards:

On a medium loam soil use 10 to 15 lbs. per tree of a fertilizer analyzing from 5 to 8% ammonia and 10 to 12% phosphoric acid. On sandy or gravelly soil use 12 to 15 lbs. per tree of fertilizer analyzing 4 to 6% ammonia, 6 to 8% phosphoric acid, and 5 to 8% potash.

For Grapes:

On sandy or gravelly loams apply 750 to 1,000 lbs. per acre of fertilizer analyzing 2 to 3% ammonia, 8 to 10% phosphoric acid, and 4 to 6% potash. On clay, use 750 to 1,000 lbs. 2% ammonia, 8 to 12% phosphoric acid, and 3 to 5% potash.

Truck Gardening:

All gardeners, who are getting best results from fertilizers, are using fertilizers of high analysis. Fertilizers that run from 4 to 6% ammonia, 8 to 10% phosphoric acid, and 4 to 8% potash, are especially adapted to use on early vegetables. Use 750 to 1,000 lbs. per acre, depending upon the state of the soil and the feeding characteristics of the crop.

For Raspberries, Strawberries, and Other Small Fruit:

Apply 500 to 1,000 lbs. per acre of fertilizer carrying 4 to 6% ammonia, 8 to 12% phosphoric acid, and 3 to 5% potash.

Write for Free Booklet, "Increasing Orchard Yields."

Soil and Crop Improvement Bureau

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Henry G. Bell, B.S.A., Director. 14 Manning Arcade, Toronto

WANTED

First-class greenhouse men; also men for truck farming. Must be A1 men, with at least one thousand dollars to invest. Good wages.

This is a grand opportunity to make good, and the offer of an old-established florist, who is about to build extensively up-to-date greenhouses early this spring.

When applying for particulars, say how much you have to invest, with absolutely full particulars of your ability.

Apply Box 15

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DOMINION SEEDS

WON'T STAY PLANTED—"THEY COME UP"

Take no chances when purchasing garden seeds. Dominion seeds are higher grade and produce big crops. Ask for our 80-page Garden Book.

FREE.—Send us your name and address and we'll mail you our 1921 Seed Catalogue.

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LONDON - - - - - CANADA

the object of protecting the interests of fruit growers by ensuring their receiving from the nurseries the variety and character of stock they ordered. Strong opposition on the part of nurserymen had prevented the Act being put in force. Prof. J. W. Crow, of Guelph, was in favor of safeguarding the interests of the fruit growers, but believed that the provisions of the proposed Act were too drastic and that if put into force they would soon put the nurserymen out of business. A committee was appointed composed of three fruit growers and three nurserymen, with the object of modifying certain provisions in the proposed Act. It is understood that the committee will act without delay in order that Mr. Bragg may introduce the measure in its amended form at the present session of the Ontario Legislature.

The Container Situation.

The great increase that has taken place in recent years in the price of fruit packages has made their purchase an important problem for fruit growers. This subject was discussed by J. M. Wallace, of Oakville, who spoke on the "Basket and Crate Situation"; by W. A. Fraser, of Trenton, who dealt with the barrel situation, and by S. H. Moore, of the B. C. Mfg. Co., who spoke in reference to the supply of boxes. The speakers intimated that some recession in prices may be expected this year, but they will still remain far above pre-war levels. The change which has taken place in conditions was pointed out by Mr. Wallace, who showed that where he had paid \$18.50 per 1,000 seven years ago, last year he had paid as high as \$40.00 per 1,000 for freight alone. He had sold logs to other factories at \$80.00 to \$90.00 a thousand. Girls who formerly were paid \$1.00 a day now expect 25c an hour, and give an output of only 900 boxes every day against an output of 1,500 when hours were longer and wages lower.

It was pointed out by Mr. Fraser that

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



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Have been growing and shipping Fruit and Ornamental Trees, Shrubs, Roses and Plants direct to planters over 40 years. Our free priced catalogue is ready. Look it over now for good results.

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The leading Red Raspberry in cultivation. Our stock is first class, well graded and sure to please. Delivered, all charges prepaid, \$4.00 per 100, \$30.00 per 1000, cash with order.

Write for catalogue listing over one hundred varieties of small fruits, etc.

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PORT BURWELL, ONTARIO

freight rates had advanced 40% in four years, and that the Workmen's Compensation Act had placed a charge of \$4,200 on his factory last year. The supply of barrel stock at mills in Ontario was smaller than at any time during the past 15 years. If growers will place their orders early, stock can be secured. It was pointed out that labor is cheaper in winter than in summer, and that the cost of production, of baskets particularly, could be decreased if orders for stock were placed early enough to enable them to be made up during the winter.

Mr. Fraser believed that six-hoop barrels should be available this year at the rate of \$1.00 in big lots and \$1.10 in small lots. Bushel hampers for apples are being offered at 35c f.o.b., or 34c at factory, and a handsome B. C. box, printed in two colors, at 30c each. This box is shipped knocked down. Twenty-seven box B. C. berry crates are being offered at 23c.

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Two addresses, one on "Further Light on the Winter Injury Problem," by J. A.

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for orchard and garden spraying. While entirely non-injurious to the foliage or fruit C. P. Insecticides effectively control the profit destroying insect pest.

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is just such an Insecticide possessing all the well known virtues of the Lime Sulphur Solution without any of its disadvantages. Put up in convenient sized con-

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Big Berry Profits from Townsend's Choice High Grade Strawberry Plants

WE Save You Money and start you right. By selling you a grade of plants that will produce from 50% to 100% more and better fruit than the average strawberry plants sold. We are plant growers, not dealers. Every plant is dug fresh for your order from our stock of forty to fifty million plants. Nearly all on new land which insures strong, healthy, vigorous plants. All plants are carefully selected at time of digging, and packed so as to reach you in good condition and ready to grow THE BIG CROPS OF BIG RED BERRIES, which there is always a ready demand for.

WE HAVE SELECTED A LIST OF FORTY VARIETIES which is fully described in our beautiful illustrated catalog in colors, which is mailed FREE on request.

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25 plants. \$.50	100 plants. 1.50	1000 plants. 12.00
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100 plants. 1.00	300 plants. 2.75	
200 plants. 1.60	500 plants. 4.25	
300 plants. 2.15	1000 plants. 8.00	
500 plants. 3.50	5000 plants. 37.50	
1000 plants. 6.00		
5000 plants. 25.00		

If plants are wanted by parcel post the following rates apply:
100 p'ts to 3rd z. 10c 100 p'ts to 6th z. 30c
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Roses, Buxus, Azaleas, Paeonies, Flowering Shrubs of all kinds for outside and for forcing.

FRUIT and NURSERY SEEDLINGS for budding
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ANY QUANTITY. BEST PRICES

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GLADIOLUS

Your garden will be more delightful if you plant a liberal number of the best Gladiolus. We will list seventy-five to one hundred varieties, the best of not one originator, but the best of many originators. A few delicate, dainty Primulinus Hybrids, like Orange Brilliant and Maiden's Blush and most of the well known standard varieties are listed. Also Iris Pallida Dalmatia. Send for list.

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Dutch Bulbs For Canadian Gardens

Grower to Grower

Tulips, Narcissi, Hyacinths, Crocuses, Etc.

Import orders accepted from Horticultural Societies, School Boards, Park Commissions, and private individuals, up to end of August. Order early. Catalogue ready in April.

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VAN'T HOF AND BLOKKER

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430 BRUNSWICK AVENUE, TORONTO.

Neilson, of the Guelph Agricultural College, and the other entitled "Alternate Bearing in Apple Trees," by Prof. J.W. Crow, were given. These addresses will be dealt with somewhat fully in a subsequent issue of The Canadian Horticulturist.

Transportation Problems.

The benefits of a Carrier's Protective Service were dealt with by Mr. G. E. McIntosh, of the Fruit Division, Ottawa, who described what such a service has accomplished for fruit growers in the United States. Mr. McIntosh dealt with certain transportation problems. The minimum carload weights for apples in B.C., he said, had been increased to 35,000 lbs. There is a possibility that the minimum in Ontario, which is 30,000 lbs. will also be increased.

Conditions in Great Britain.

Fresh from his trip to Great Britain, Hon. Manning Doherty, Minister of Agriculture, was able to give considerable information bearing on fruit marketing conditions in England. Mr. Doherty emphasized marketing problems as being possibly the most important before the producer. Mr. Doherty stated that South African peaches sell in large quantities on the British market for 20c to 50c a piece, in spite of the fact the fruit is 26 to 28 days in transit, and has to cross the equator.

Fruit Conditions.

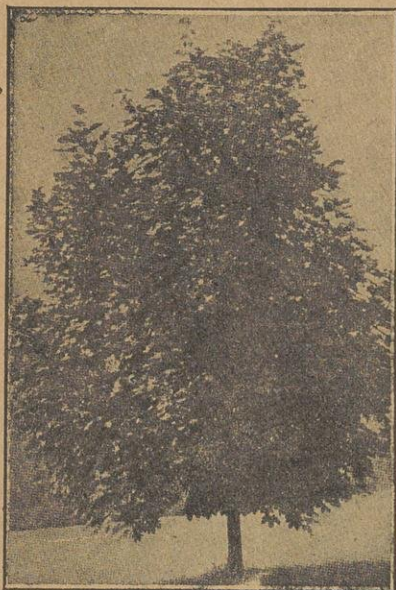
Fruit Commissioner Baxter stated that while fruit conditions have improved during the past few years in the extreme eastern and western portions of Canada, they have gone behind in Ontario and Quebec to an extent that has more than off-set the improvement elsewhere. The extreme cold weather during the winter of 1917-18 as well as neglect on the part of the growers has destroyed about 60 per cent of the Fameuse apples in Quebec.

Cost of Production.

Great interest was displayed in the address of Prof. A. Leitch, of the Farm Survey Dept. of the Guelph College. Prof. Leitch agreed with the Minister of Agriculture in the view that fruit growers will be justified in diverting some of their attention from problems of production to problems of marketing and distribution, and showed that the costs, amounting to two and three times the cost of production, which pile up during the transmission of the fruit from the shipping stations to the consumers, are the portion of the price which the consumers pay to which the consumers take the greatest objection. Instructive charts showing the costs of producing fruit in Durham county and in the Niagara Peninsula were shown.

In Durham county, 165 mixed farms of an average size of 125 acres, with an average of 85 acres in crops, including 7 acres of orchard, had an average investment of \$16,865.00. The total average income of these farms was \$3,334.00, the expenses were \$1,736.00, and the labor income \$896.00. In comparison with these figures Prof. Leitch called attention to 35 orchard farms, the average size of which was 110 acres, and the average area in crops 79 acres, of which 33 acres were in orchard. The average capital investment per farm was \$24,439.00. The gross income per farm was \$4,911.00, the expenses \$2,347.00, the farm income \$2,186.00, and the labor income \$964.00. Prof. Leitch stated that safer and surer incomes were obtainable in Durham county from mixed farming, but that larger profits and larger losses were experienced by the fruit specialists. He believed that where proper methods were followed, the producer had nothing to fear.

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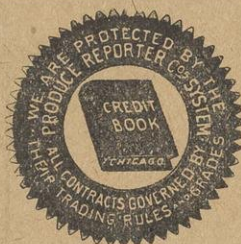
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We Get Best Prices

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.

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Now is a good time to begin laying your plans for the care of your lawn. Do a little investigating in advance; find out for your own satisfaction just what benefits you could derive by using the Ideal Power Lawn Mower to care for your lawn.

You will find that the Ideal is a splendid machine to have ready at the very beginning of the grass-cutting season, when sufficient rolling and frequent cutting are so vital to the health and vitality of the grass.

For the Ideal gives you in one machine a power mower and a power roller. You have a machine with which one man can cut larger areas of grass without effort and at small cost. And the problem of keeping the sod well rolled is immediately solved.

Best of all, the Ideal is highly perfected, and has demonstrated its usefulness by actual service in the hand of thousands of users.

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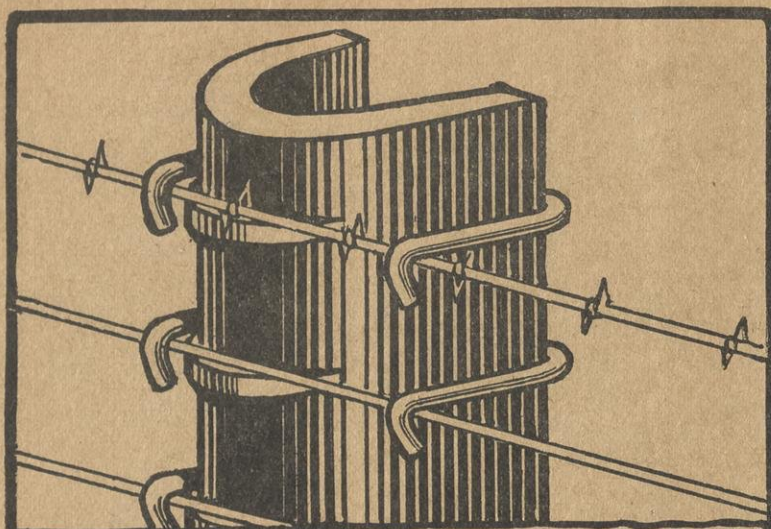
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WIRE CAN'T SAG WITH "BURLINGTON" POSTS

The ribs on "Burlington" Steel Fence Posts keep the wire from slipping and sagging. They are an actual part of the post so they will not break. They strengthen the post by eliminating fastening holes.

This is just one advantage of "Burlington" Steel Fence Posts that make them the best investment for your farm. They last indefinitely, are easily erected and make strong, permanent fences. Sold by hardware, fence and implement dealers, or write direct for descriptive booklet.

BURLINGTON PRODUCTS, LIMITED

307 SHERMAN AVENUE NORTH
HAMILTON, CANADA

In the Niagara District, the cost of producing tomatoes, based on surveys covering 49 farms, was over 54c a bushel. The canning factories paid only 50c a bushel. Growers who are able to produce crops above the average were able to make a profit at 50c a bushel, but many growers lost money at that price.

Historical Committee.

An interesting report was presented on behalf of the Historical Committee by A.W. Peart, of Burlington. Mr. Peart advised fruit growers to be active in spraying this spring as in spite of the check given to the San Jose scale by the severe winter in 1917-18, the scale is beginning to re-appear. He stated that the black knot on plum trees is making headway and will have to be dealt with if plum orchards are to be maintained. Mention was made of the death of three old members—Geo. E. Fisher, Burlington; W. H. Dempsey, Trenton, and Wm. Armstrong, Queenston, and a history given of their connection with the association. Resolutions of condolence were passed.

Grape Marketing Situation.

A brief history of the formation of the Grape Growers' Marketing organization in the Niagara Peninsula was given by T. J. Mahoney, of Hamilton. Of the 4,500 acres in the Niagara Peninsula, about 2,000 acres are already under contract to be sold through this organization this season. The United States tariff on grapes is \$15.00 a ton. Mr. Mahoney does not expect that this will be increased. Prohibition in the States has been a boon to the producers of grapes. Mr. Mahoney believes that prices will be higher this season than last, due to the increased demand for grape juice and wine.

An interesting outline of the work of the New York Cooperative Packing Association was given by N. R. Peet, its general manager. Mr. Peet emphasized the point that cooperative associations should endeavor to establish confidence among buyers in the quality and grade of their product. The benefits of advertising were on the basis of the quality of fruit picked as this practice leads to carelessness. He favored paying by the day and having the fruit picked in the proper way.

Mr. E. A. Orr, of Clarkson, claimed that it is not possible to raise strawberries at a profit on land worth \$1,000 an acre, if only average crops are realized.

Best-by-Test FERTILIZERS

for every
CROP
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F FARMS YIELD MORE IN CROPS AND MONEY when they are kept up to a high production standard by the regular use of good Fertilizers. BEST-BY-TEST FERTILIZERS are strong in fertilizing power and are up to full strength of analysis. If you want advice as to the kind of Fertilizer you need, write us about your crop and soil. We are headquarters for scientific users of Fertilizer in Eastern Canada. We pride ourselves on having every brand, make or chemical any farmer or dealer could ask for. Ask your dealer, or form a club of farmers and order in carload lots. Prices on request.

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SEED POTATOES

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Strawberry Plants For Sale

"Olga Petrova,"

The great commercial variety and all standard kinds. Send for free price list.

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ROSES, PAEONIES, SHRUBS, GLADIOLI

And everything good for garden and Lawn. None better—none cheaper.

Ask for Catalogue and price list.

A. W. GRAHAM

ST. THOMAS, . :: :: :: ONTARIO

Market Notes for February

Furnished by the Dominion Fruit Branch
Department of Agriculture, Ottawa

St. John, N. B.

This market has been well supplied with all kinds of fruit. The price of Nova Scotia apples has ruled firm for the better grades. Preference is shown by the retail dealer for boxed fruit, as it is more uniform. Prices varied from \$4.50 to \$5.25, being a slight advance through the month, with a firmer market.

Montreal, P.Q.

At the end of February there were in store in Montreal 10,185 bbls. of apples and 21,590 boxes. This quantity, compared with the holdings of the same date one year ago, shows that the present stocks are greater by 2,374 bbls. and 4,715 boxes. As our winter apples have been picked for over four months and most of the long keeping varieties are now showing ripe to over-ripe, it would appear that these should be disposed of without further delay, especially the domestic and No. 3 grades. More slacks than usual have come to this market, and, although it is

GLADIOLI

Some of The Best
All Flowering Size Bulbs
1 1/4" and Over

	Each	Dozen
Europa, snow white	15c	\$1.25
Loveliness, beautiful cream...	10c	1.00
Mrs. Frank Pendleton, salmon pink	15c	1.25
Niagara, creamy yellow	10c	1.00
Prince of Wales, light salmon	15c	1.25
White Giant, large white	25c	2.50
20 mixed bulbs to one address		\$1.00

My price list of all the leading varieties
for the asking.

ROBERT CAMERON

210 Ontario St. St. Catharines, Ont.

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.

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CONSIGNMENTS OF FRUIT AND
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PETERS, DUNCAN Limited

88 Front St. E., Toronto, Ont.

See Advertisement on page 41.



Let Fruit-Fog Save Your Profits

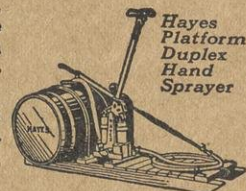
DON'T let millions of vicious UNSEEN pests fasten their life-sapping fangs to your fruit, potatoes, hogs and poultry.

Write for free book and learn how Fruit-Fog—the scientifically atomized Hayes high pressure Super-Spray envelops every twig, branch and leaf like a mist—works into the microscopic niches, cracks and crevices, kills not only the outside pests, but also the millions of hidden pests, which no ordinary, coarse, low pressure spray can possibly reach.

This amazing thoroughness accounts for the remarkable success of the Hayes System of Fruit-Fog Spraying. It is adding fortunes to fruit, potato, hog and poultry profits each year.

WRITE FOR FREE BOOK TODAY—Tell us what you want your sprayer to do, and we will tell you which of the Fifty Styles of Hayes Sprayers is best suited to your needs, and its price. We'll also send our New Book of Hayes Sprayers and valuable Spraying Guide FREE.

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HAYES

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SMALL FRUIT PLANTS

Gooseberries—Josselyn, Downing, Houghton.
Currants—Perfection, Fay, Ruby, Cherry, Boskoop,
Giant, Lee's Prolific, Champion, Victoria, Naples.
Raspberries—Herbert, Plum Farmer, Shaffer's Col-
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shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$23.75 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

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130-Egg Incubator and Brooder Both For \$23.75

If ordered together we send both machines for only \$23.75 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station.

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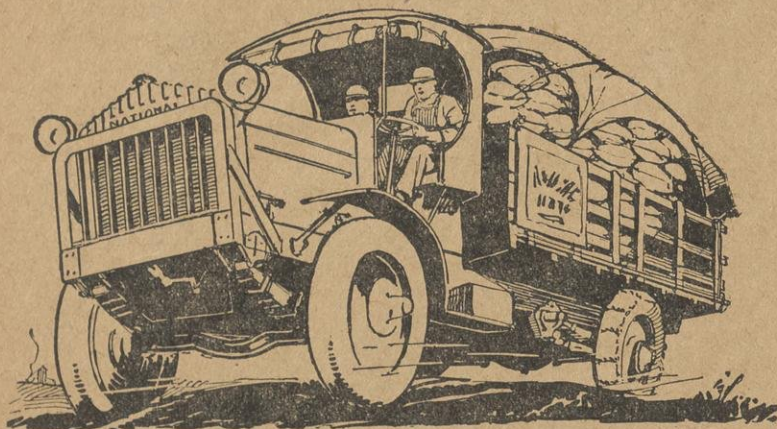
National Trucks are made in Canada. This industry utilizes Canadian capital, employs Canadian labor, and helps keep Canada busy. Canadian engineering skill has designed a truck for Canadian conditions.

The result is a product of which every Canadian can be proud. National Trucks have no superior. For endurance and ability to get there they meet every requirement.

Made in 1, 1½, 2, 3½ and 5 ton models, there is a National to suit your needs.

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FLOWER SEEDS KELWAY'S

choice strains of Florist's Flowers are unsurpassed and we can point to over 300 exhibition Awards gained in all parts of the world.

Prices always available—spot or growing crops.

The Address

KELWAY & SON Wholesale Seed Growers
LANGPORT, ENGLAND

difficult to determine what are the causes, it is the opinion, from observation, that it is due to the long, mild picking season and the fact that, owing to the scarcity of containers, apples were permitted to remain in bins and piles too long. However, considering the quantity and quality of the stocks on hand, February sales have given a fair average price. Golden Russet and Northern Spy have taken the lead, and in some few cases touched \$10 a bbl. However, in June last, Spies sold at \$15 a bbl. where these were particularly well colored and evenly sized.

Ottawa, Ont.

Practically no change in prices for the past two months on higher grades of good, sound, merchantable stock suitable for dessert and culinary purposes. However, the tendency is for prices to go higher towards the end of the apple season. Wasty stock and varieties held in storage out of their proper season are being sold at greatly reduced prices. No. 1 Spys, \$9; No. 2's, \$8; No. 1 Baldwins, \$7.50; No. 2's, \$6.50; No. 1 Starks, \$7.50; No. 2's, \$6; No. 1 Russets, \$8; No. 2's, \$7; Ben Davis are beginning to move at \$7 for No. 1's and \$5.50 for No. 2's. The price for boxed apples has been good for the past two months. Ontario dessert varieties are selling at \$2.50 to \$3.75, and culinary stock at \$1.85 to \$2.50.

Toronto, Ont.

Good No. 1 Spys have been in demand at \$7 to \$7.50 a bbl. No. 2 and Domestic \$1.00 less. Starks, Baldwins and Greenings, \$5.50 to \$6 for No. 1's; No. 2's and Domestic, \$5 to \$5.50; tree-run apples in open barrels, \$3 to \$3.50. Ontario boxed Spys, \$3 to \$4. A great deal of dissatisfaction is felt regarding Ontario boxed apples not being wrapped and properly sized. British Columbia Winter Banana, Delicious, Winesap, and Rome Beauty, \$4 to \$4.50 per box.

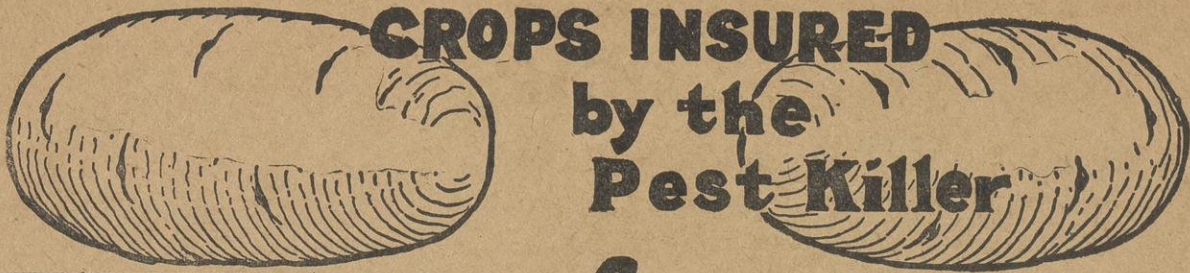
Winnipeg, Man.

Owing, no doubt, to the mild weather, the fruit and vegetable business up to the middle of the month has been much brisker than during past years. This may also be accounted for to a certain extent by the fact that there has been a lowering of prices, particularly in the case of oranges. Apple prices have also declined, following the drop in oranges. There have been eleven cars of California vegetables in the market, containing chiefly celery, cauliflower and head lettuce. These vegetables have also been lower in price, the celery about 50% cheaper and the others about 10%. Apple stocks have declined rapidly, despite the fact that nine cars imported, three cars British Columbia and two cars of Ontario have been placed in storage since January 1st. Wholesale and retail dealers are of the opinion that until spring opens up and there is work and money for everybody, the fruit business will continue to be quiet. Since February 18th, eleven cars of imported apples have arrived.

ACHILLEA GRANDIFLORA THE PEARL.

It commences to bloom by the first of July and is a perfect mass of bloom until frost. As many as five thousand flowers have been counted upon one plant at one time. Flowers pure white, perfectly double, and are produced in large sprays, and are unsurpassed for all sorts of cut-flower work, bouquets, etc. It is perfectly hardy anywhere, and so vigorous that it will take care of itself among weeds. For cemetery planting there is nothing finer, for it is sure to live, thrive and bloom profusely year after year. The plants we send out will bloom profusely this summer. 20c each; 3 for 50c.

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LONG BRANCH - - - ONTARIO



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Prove to your own satisfaction that Harab-Davies fertilizers give better yields. Fruit growers and farmers everywhere in Canada have used Harab-Davies Fertilizers for years because their quality has been always uniform and always right. They have also proven the cheapest. Be sure you get Harab-Davies fertilizers this year and you can be sure of your crop yield.

WHAT TWO USERS SAY.

"I made a test of mixed fertilizers 3-12 on three trees, and bone meal 3-22 on three trees, and manure on three trees in a block of nine trees. All of these trees were manured equally with barn manure, then the fertilizer added extra. The six trees that were fertilized with bone meal and mixed fertilizers were decidedly prominent in color and size of fruit, the size being enough extra to pay three times the cost of the fertilizer. These trees were about 28 years old."—(Sgd.) Frasier Lazier, Brighton, Ontario.

"We have been using fertilizers more or less for the past ten years, and for the most part with good results. We had splendid results this year on grain and expect to use fertilizer

on every acre of grain we put in this next year. We think it doubled our crop.

"On orchards it is really harder to determine just what the results are, but we do know that the orchards we have fed the heaviest are giving the largest returns, and we are going to continue the use of fertilizer. We have not used bone meal long enough to say what the results are from it, but 5-12-0 shows up very quickly."—(Sgd.) G. H. Mitchell, Georgian Bay Fruit Growers, Clarksburg, Ontario.

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2

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Write to A. L. Rice, Inc., Manufacturers, 37 North St., Adams, N.Y., and a free trial package will be mailed to you, also color card and full information showing you how you can save a good many dollars. Write to-day.

FRUIT BASKETS

11 and 6 Quarts

The new government standard. We would be pleased to supply your requirements for this year.

Write us for Prices

AGENTS WANTED

HYSLOP & SONS

Greenville - Ontario

on this market. These are mostly Winesaps of small size, some so small and packed "jumble" that they are being marked No. 3. One car of Ontario barrelled Spys, 1's and 2's, from Thornbury, arrived in good condition and were bought up quickly by the trade.

Fertilizer Conditions in Canada

D. W. Gunn, President Canadian Fertilizer Association.

THE fertilizer business in Canada is on the verge of a remarkable development, provided Canadian fertilizer manufacturers are given an opportunity to develop Canadian trade.

Practically every dollar earned by the manufacturers during the last three years has been spent in educational and experimental work, teaching users how to get the most return for the money they expend, and showing them the way to determine just how much interest they realize on their investment, after the principal has been deducted.

The most suitable fertilizers for different crops and soils are, as far as possible, determined, and the manufacturer makes his recommendations and formulae accordingly. This information is generally obtained in actual field tests conducted by practical farmers. This honest concern in the results that the purchaser will obtain is developing a mutual interest, which will result in a substantial business of steadily increasing volume.

It is significant that the people who are buying fertilizer to-day, at what they believe to be unreasonably high prices, are those who have tried it out under all conditions, and you can bet they know they will get their money back.

We cannot look for pre-war prices on fertilizers as long as freights, wages and materials maintain their present position in relation to pre-war costs. Materials are all practically 100% higher, railway rates on materials coming in from the States about 100%, and wages from 200% to 300%.

With lower prices ruling for the commodities they produce, it is imperative that farmers keep the machinery of their factories (their farms) in the best possible condition, so that they will turn out—not a fifty per cent crop, but a one hundred and fifty. Every extra bushel of grain, ton of hay, or bag of potatoes helps to reduce the average cost. During the war many manufacturers discovered the secret of volume in business. A bigger turnover at considerably less margin of profit really meant bigger dividends.

Our farmers cannot hope to intensify their operations comparable with European farmers. They can, however, by the application of fertilizer, bring their farms up to the highest possible production without additional labor.

Speaking in the Ontario Legislature in February Hon. Manning Doherty, Minister of Agriculture, stated that there is a market in Great Britain for all the apples Ontario can produce. He said he had seen Ontario apples last fall sell at \$26.00 to \$28.00 a bbl. which the grower received less than \$7.00 a bbl. He contended that the trade in Britain is controlled by one of the tightest and strongest commercial rings in existence. Hon. Mr. Doherty believed that the formation of a powerful fruit growers organization in Ontario might enable Ontario farmers to compete against this combine to better advantage.

SOCIETY NOTES

London

THE directors of the London Horticultural Society this season are giving one dozen gladioli bulbs for a spring premium, which are valued at \$1.50 retail. These will be given out by May 1st or a little later. Premiums for 1,500 members are being ordered, or 18,000 bulbs. It is necessary that all old members be paid up by that time to get these. A good premium will also be given out in the fall. Those joining after the spring premium is given out will get a double premium in the fall, to make up for not getting the spring premium. Our membership is only 600 yet, which is 1,400 short of our objective. We will get there.

Plant The New Delicious Apple

The Greatest Winter Apple of a Century

..After ten years' careful testing, found to be entirely hardy for Ontario and Quebec planting.

Fruit unsurpassed for beauty, quality and flavor.

Sells for higher price than any other apple.

Extra Fine Two and Three-Year Trees for

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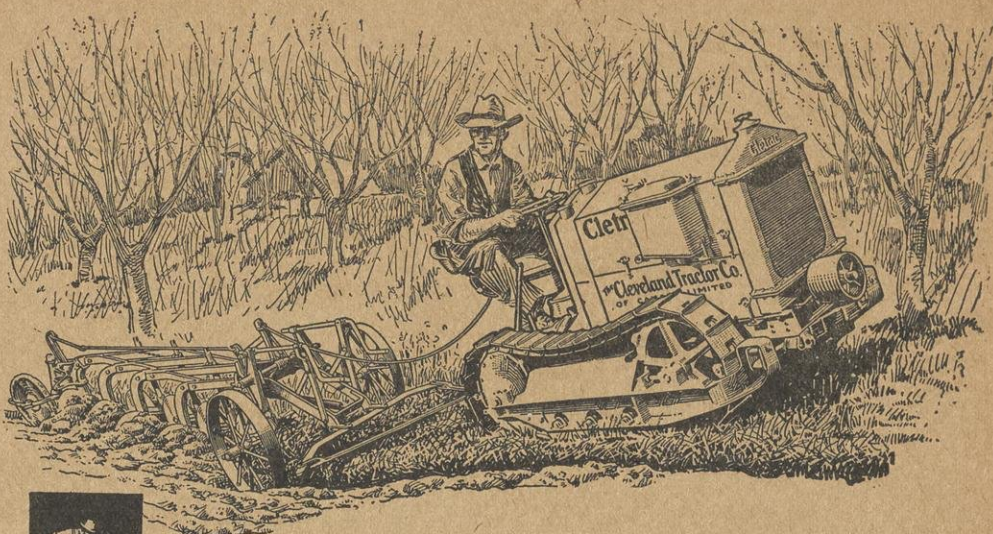
SPECIAL PRICES for box lots on Delicious McIntosh Red and other leading kinds.

WRITE FOR FRUIT LIST.

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EASY ON A TRACK
THE CLETRAC WAY

SPECIFICATIONS

Horsepower: 12 at draw-bar, 20 at belt-pulley.
Length: 96 inches.
Width: 50 inches.
Height: 52 inches.
Weight: 3455 pounds.
Turning circle: 12 feet.
Traction surface: About 800 square inches.
Centre to Centre of Tracks: 38 inches.
Belt-Pulley: Diameter 8 inches, face 6 inches.



Cletrac's Just Right For The Orchard

Cletrac gets at every corner of the orchard. Compact and smooth-bodied, it threads its way in and out amongst the trees, doing every job of cultivation. Works close up to the trunks without bruising the bark, and goes easily under out-hanging branches.

Cletrac rides lightly on top of the soft soil in orchard or field, on its broad tracks without sinking in. Does the work of three men and six horses. Just as powerful on hills and side-slopes as on the flat. Does every hauling and belt-work job about the farm.

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FOR SALE—About 150 factory-made ten-frame Langstroth hives, telescope covers, reversible bottom boards. Also a number of good eight-frame hives. This is a good opportunity to enlarge your business at a moderate investment. Write for particulars. F. P. Adams, Brantford, Ontario.

HARDY ITALIAN QUEENS—\$1.00 each. W. G. Lauver, Middletown, Pa.

GOLDEN QUEENS that produce golden bees, selected untested \$2.00, tested \$2.50. Safe arrival and satisfaction guaranteed. Clinton Bradway, Monson, Mass.

FOR SALE—300 empty 9-frame supers, nailed and painted white; 1 6-frame Root Friction Power Honey Extractor with belts; 1 Dadant Uncapping Tank; 1 Root 8 in. Steam Knife; 1 Root ¾ in. Honey Pump Complete; 70 Jones Single Winter Cases, nailed and painted white; 65 Wire Cloth Bee Cages, 2-lb. size. M. Stevenson, Woodlawn, Ont.

WANTED—20 to 40 colonies of Italian bees in 10 frame Jumbo or Langstroth hives. R. Castonguay, 533 Somerset St., Ottawa, Ontario.

FOR SALE—June delivery. 1 untested queen, \$1.50; 12, \$14.00; 1 sel., \$1.75; 12, \$17.00; 1-lb. bees, \$3.50; 2 lb. bees, \$5.50. I. F. Miller, Brookville, Pa., R. R. No. 2.

EXPERIENCED BEEMAN, financially responsible, owner of a big farm, wants to let or work on shares, 50 to 150 colonies, for extracted honey. Well equipped, will furnish modern equipment and outfit. Buying propositions at good terms, also considered. Aime Lafreniere, Ile Perrot, Que.

BEEES WANTED—50 colonies or less, must be in good shape and no disease present. Preferably in 10 frame hives. Address, J. Rochester Smith, 320 Fairmont Ave., Ottawa, Ont.

"SHE-SUITS-ME" three-banded Italian queens. After June 15, one to nine queens, \$1.50 each; ten to twenty-four queens, \$1.40 each; twenty-five and up, \$1.25 each. Before June 15, \$2.00 per queen. Canadian bills and checks accepted. Allen Latham, Norwichtown, Conn., U.S.A.

QUEENS ON APPROVAL—Bees by package or colony. Write for price list. A. M. Apple-gate, 840 Main St., Reynoldsville, Pa.

FOR SALE—Acre lot, excellent location, on main road, in best apiary district, just north of Toronto. Bargain for cash. Write owner for information. Box 22, The Canadian Horticulturist and Beekeeper, Peterboro, Ont.

PURE ITALIAN QUEENS, \$2.00 each. F. L. Barber, Lowville, N.Y.

WANTED—Bees, full colonies. Send price and particulars to Box 40, The Canadian Horticulturist and Beekeeper, Peterboro, Ont.

HOW MUCH EASIER TO GET A CROP OF HONEY if you have a good Smoker with Queen Excluder, Bee Escape Board, etc. We have them. Price list on request. The Ontario Beekeepers' Supply House, Guelph, Ontario.

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GARDENER AND FLORIST—Age 45, life experience, glass and outdoors. Good at production. Able to work economically and to handle help. Box 27, The Canadian Horticulturist, Peterboro, Ontario.

WE SAVE YOU MONEY.—Write for catalogue of seeds, shrubs, garden supplies and fertilizers. Morgan's Limited, London, Ontario.

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INCUBATORS, THERMOMETERS AND HYGROMETERS—Write for large catalog of all poultry supplies. Morgan's, Limited, London, Ontario.

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BULBS OF ALL DESCRIPTIONS.—Write for prices. C. Keur & Sons, Hillegom, Holland. New York Branch, 82-84 Broad St.; also 10418-113th St., Richmond Hill, L.I., N.Y.

GLADIOLI GROWERS have millions of inferior varieties which they can afford to discard for newer creations. Consider this list—Red Emperor, White Giant, Conspicuous, blue, \$1.50 doz.; Prince of Wales, salmon pink; Loveliness, creamy; Roem, Kennimerland, pink, \$1.00; Schwaben, yellow, 75c. J. Kennedy, R. R. No. 1, Stratford, Ont.

THRIFTY STRAWBERRY PLANTS FOR SALE—75 cents a hundred—Senator Dunlop, Pokomoke, Bederwood. Rev. John Moore, Strathroy, Ontario.

but we want every member to send in a new member.—W. Wyatt, Secretary.

Whitby

The annual meeting of the Whitby Horticultural Society was recently held.

Rev. Mr. Fletcher, who has been president for a number of years, asked to be relieved of the office. His resignation was accepted with regret, as he has taken a keen interest in the society.

The financial report showed a nice balance on hand to carry on the work this year.

The society had a membership of 101 for 1920, an increase of 36 over the previous year. This year the society hopes for a similar increase.

The election of officers resulted in:

President—Miss M. V. Powell.

1st Vice-Pres.—Rev. Jos. Fletcher.

2nd Vice-Pres.—G. Davey.

Sec.-Treas.—W. G. Augustus.

Directors for 1921-22—Mrs. C. F. McGil-livray, Mrs. E. E. Starr, Miss M. Annes, G. Robb, E. Gurney.

Directors for 1921—Rev. E. Turkington, Mrs. F. L. Beecroft, Mrs. C. C. Parsons, W. M. Jermyn, Dr. E. W. Sisson.

Auditors—Jos. White, R. N. Bassett.

If vegetable growers would take more notice of what other growers are producing there would be markets for us all and not so much produce of one variety.—J. D. Nairn, Bartonville, Ont.

REAL ESTATE

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

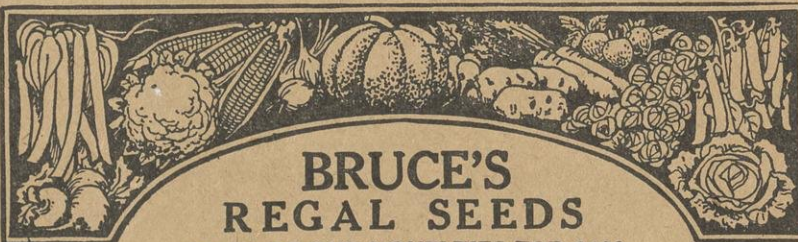


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NEW BURBANK'S TOMATO—By far the earliest, smoothest, solidest, most productive, and best of all early varieties—Fruit bright crimson, thick, solid, heavy, smooth, firm, medium size, superior quality, a heavy and continuous bearer, best keeper and shipper; unlike most varieties the skin peels freely from the flesh. Pkt. 100 seeds 25c., 5 for \$1.00. Postpaid.

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EARLIEST OF ALL CUCUMBER—The best extra early, white spine type, fruit uniform, tapering slightly and abruptly at both ends, color good deep green, and an excellent shipper. Pkt. 10c., oz. 30c., 2 oz. 50c., 4 oz. 90c. Postpaid.

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TERMS OF CONTEST

- 1st—Contest closes noon, June 1st, 1921.
- 2nd—An order for seeds or nursery roots must accompany answer.
- 3rd—You may send order to us direct or to any seed house in Canada that handles our seeds.
- 4th—Answer must not contain more than 65 words.
- 5th—Prizes will be given as follows:
- Best Answer—1st Prize—\$500.00 worth of seeds.
- 2nd Prize—\$300.00 worth of seeds.
- 3rd Prize—\$200.00 worth of seeds.
- 4th Prize—\$100.00 worth of seeds.
- 5th Prize—\$75.00 worth of seeds.
- 6th Prize—\$50.00 worth of seeds.
- 7th Prize—\$40.00 worth of seeds.
- 8th Prize—\$35.00 worth of seeds.

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