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THE CANADIAN HORTICULTURIST & BEEKEEPER

Vol. 27, No. 9, September, 1919
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The Canadian Horticulturist

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(See Pages 225-230)

(See Pages 225-230)

Vol. 27

TORONTO, SEPTEMBER, 1919

No. 9

Judging Apples at Fall Exhibitions

By P. J. Carey, Toronto, Instructor Dominion Fruit Division

A SUBJECT that perhaps is the least discussed of any in connection with the fruit industry is the judging of apples at fall exhibitions.

Now that war-time conditions have passed and we are about to resume the holding of the Ontario Horticultural Exhibition, a short discussion on the subject may be timely.

The principal use of fruit exhibitions lies in their educational value. The friendly rivalry created between exhibitors has a stimulating effect, and naturally tends to encourage the growing of the best fruit. This in turn means the better care of orchards. Unfortunately the exhibiting of fruit at exhibitions is narrowing down to what may be called "professional exhibitors." In this case, of course, the educational value is lost, and a condition is created that is entirely contrary to the thought in the minds of those who first planned the exhibition of fruit.

Perhaps one of the causes of the falling off in the number of exhibitors

is the great lack of uniformity in the conclusions reached by the different judges.

There are scarcely any two judges who follow the same rules in reaching a conclusion.

Some are influenced by size of fruit even to the abnormal. Others favor the small sizes regardless of the type of varieties being judged. In one case a well known judge refused to award a prize to fruit that had been polished. Another ruled out "Rhode Island Greening" because the fruit showed some blush. Every man seems to have notions and fancies of his own, which he is entitled to when he is acting in a private capacity, but when he is a judge of fruit at an exhibition he is not only doing a public, but an important work as well, and should shape his conclusions along well defined lines.

Plate Apples.

For plate apples the requirements should be for well grown specimens

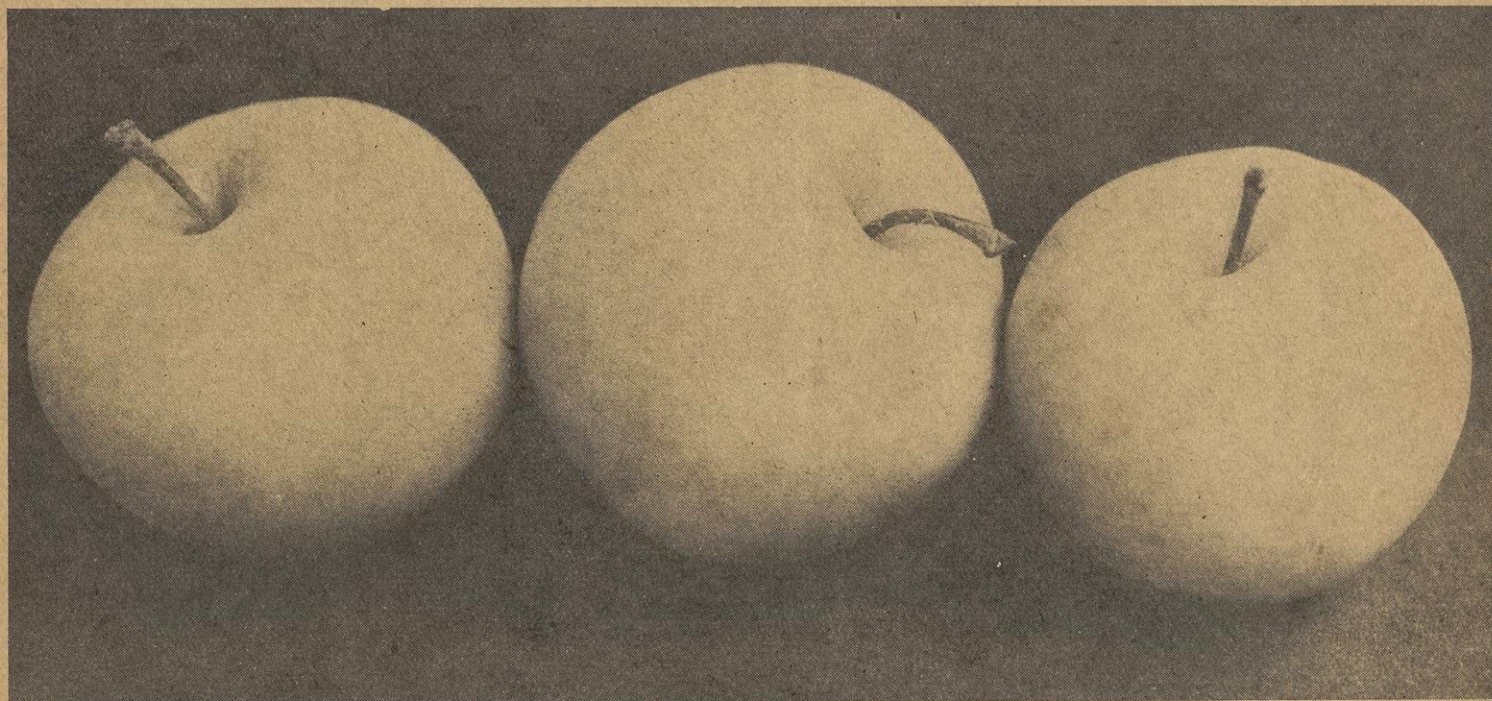
true to type, free from defects and of good color for the variety. If the variety being judged belongs to the group of large sized apples, the specimens should be large. Medium and small should have no place. If the variety being judged belongs to the group of medium-sized apples, the specimens should be medium in size, not large, and not small. The same rule should be followed in the case of typically small apples.

In judging apples belonging to the group of large varieties, judges are often influenced by color, and the award is placed on medium, and even small sized specimens, while well-grown fruit is ruled out.

Good color is very important, but we should not lose sight of the size and type of the variety we are judging.

Commercial Packages.

When we come to the judging of commercial packages we have an entirely different proposition. As medium



In the judging of exhibition fruit look for trueness to type and uniformity. Three Yellow Transparent Apples are shown. This is an early variety, the season for which starts in early August and ends in the first part of September. The tree is of medium size, a moderately vigorous grower, hardy and comes into bearing very young. The fruit bruises easily.



Apple maggots, natural size, are here shown at work on the fruit. (Photo by Prof. L. Caesar.) No. 1.

sized apples for export and long distance will carry better than large, the commercial consideration enters into the judgment in placing the award.

In the judging then of plate, or collections of apples, and commercial packages, the judge's conclusions must be worked out along distinctly different lines. In one case well grown specimens true to type should be sought and in the other commercial value.

We must not discourage the growing of large apples. The grower must not only aim at growing fruit of good quality, but also well grown fruit, which means a large quantity and of good size.

An extra barrel or box on a tree may make the difference between a profit or no profit. In the judging of other fruit, of course, the same rules should prevail.

In order then to have some uniformity on the rules governing the judging of fruit, there is work for a committee of fruit experts to go over the matter. Minimum sizes should be fixed for different groups of sizes. Then there are other phases such as the matter of sufficient color, polishing of fruit, etc.

A definite report on the matter could be studied by both the judges and the exhibitors, which would make it easier for all concerned, and tend to lessen the number of protests and dissatisfied growers.

Ripening Grapes

By selecting varieties of grapes of superior keeping qualities this fruit may be kept in cellar storage sufficiently well to provide fresh table grapes for a month or six weeks after the grape season is past. The varieties best adapted for storage as found by the Ohio Experiment Station are: Agawam, Diana, Gaertner, Hernito, Iona, Lindley, Salem, Vergennes, Wilder and Xenia.

In selecting grapes for storage, ma-

ture fruit free from disease has been found essential. Unlike apples, grapes do not improve in flavor after picking. They should be picked dry and handled carefully to avoid cracking of the fruit. Grapes stored on shelves or in trays in shallow layers keep better than by any other method of handling, as shown by the experiments.

A temperature of 40 degrees F. has proven almost ideal for keeping grapes, as the lower temperature of cold storage causes an increased amount of shattering and in some cases injures the flavor. Moisture conditions may affect the keeping qualities of grapes, as too dry an atmosphere increases the shrivelling and too much moisture tends to encourage decay. A well-ventilated cellar will provide suitable moisture conditions.

Peach Tree Borer

W. E. Rumsey.

The peach tree borer is a serious menace to peach growing and an exceedingly difficult insect to control. The number of remedies and preventives tried against this pest is legion. But as yet no one has found a panacea for the trouble. Many things have been recommended but after careful tests they have nearly all proved to be of uncertain value.

In the work of the West Virginia Agricultural Experiment Station two penetrating sprays, either miscible oil or an emulsion of Avenarius Carbolinum and soap, seem to be effective. The results obtained by these sprays were such that three commercial peach growers of the state have been using the miscible oil sprays for two years against this pest with encouraging results. While the experiment station does not want to make too great a claim for the miscible oil treatment it is, however, believed worthy of a trial by peach growers.

In the early fall the young peach tree borers, which have hatched during the summer, are just beneath the outer bark and, therefore, the latter part of September or the early part of October seems to be the proper time to apply the penetrating material. First, remove the soil from about the base of the peach tree as is done in "worming" and after the bark is dry, spray the trunk of the trees from the base of the cavity to six or eight inches above the general surface of the ground, using Scalecide or some other brand of miscible oil in the proportion of one part to eight parts of water. A pressure of at least one hundred pounds should be maintained in making the application. After the spray material has penetrated the bark replace the

soil. To determine whether or not the treatment is effective a block of trees must be left untreated with which to make a comparison when examining for results.

Exhibition Apples

E. H. Wartman, Dominion Fruit Inspector, Montreal, Que.

For some years many fruit growers have been dissatisfied with the decisions of judges giving medium size apples first prize over very large apples, perfect in every respect. Of course the "Medium Perfect" is the all-round, commercial apple. But at an exhibition we expect to see something more than the ordinary. Something dazzling in color and magnificent in size to create wonderment to the passer-by; if we do not have this class our shows are seriously wanting.

The horticulturist is urged in his work to spray, prune, thin his fruit on the trees, fertilize his soil and to cultivate to aerate the soil; all this will tend to produce large fruit for culinary or exhibition purposes. The man who neglects these practises is not the one who will produce apples for exhibition purposes.

All our bulletins commend this work. Why, then, should the diligent worker along these lines have to take second place? I would place the approximate number of large exhibition apples as one barrel to fifty barrels of medium sized apples for average producing orchards.

I do not believe in raising apples that when the skin is off you have nothing but the core left. Where is the man who in dressing a fruit window to attract the public, does not want the very largest apples he can find, even if he has to pay a good deal more for them over the mediums that are easily found?



The inside of a very ripe apple that has been badly infested by apple maggots. Note the destructive nature of their work. (Photo by Prof. L. Caesar.) No. 2.

Appearances Count in Fruit Packing

I. M. Ross, British Columbia

A PPEARANCES count for a great deal where fruit is concerned.

Produce shipped in dilapidated, second-hand or dirty barrels and baskets loses a large measure of its market value and necessarily fails to fetch top price. Some years ago the multiplicity of packages in which fruit could be sent to the market almost rivalled the varieties of rats that followed the Pied Piper of Hamelin to the river. But standardization is now the order of the day.

There is such a thing as "cashing in on containers." That is to say making money out of attractive display. Every fruit grower knows the value of sound, strong good-looking containers. In Canada we are conservative in the number of varieties we use and this perhaps, is advantageous rather than detrimental.

In the east we still swear by the barrel, although the west has long ago surrendered to the box for the most valuable of all our fruit crops—the apple. In British Columbia apples are invariably boxed. In the east we use the boxed variety chiefly for restaurants, hotels and so forth. For general usage the barrel holds sway.

Granted that the containers are satisfactory to the eye and sound in every respect, worthy of even greater consideration is the manner in which fruit is packed. Each year tremendous quantities of berries go to waste through improper packing. Every precaution should be taken this year for double service is expected of fruit crop now in the way of releasing meat and wheat for export.

Take peaches for instance—the most delicious of fruit to handle. If they vary in size and are packed indiscriminately in tiers, the results are bound to be disastrous. It means that the fruit gets damaged with the motion of the car in shipping. But if each tier contains the same number of peaches and they are packed diagonally, each fruit rests in a pocket and they reach their destination in good shape.

Admittedly one of the best pieces of legislation governing the fruit business is the law necessitating shippers to put their names and addresses on all packages. There is a certain professional pride which causes the grower to aim at uniformity and a high standard when he knows that he is taking personal responsibility for the pack.

Moreover, the arm of the law is ranging all over the country and the fruit inspectors are continually on the qui vive for any infringements of the orders governing the fruit trade. In

these days no one gains anything by shipping a basket of fruit with a prepossessing exterior and a canker at its heart. Honest packing comes first; attractive packing second. But there is no reason why both should not be successfully combined.

A Common Mistake.

A common mistake is to pick fall varieties of apples say, at a temperature of from 80 to 85 degrees and then

immediately put them in air-tight barrels which will unquestionably retain the heat. The result is that the consignee must sell them off immediately because they will not keep. Every grower has a cellar or shelter where apples that are picked to-day may be put in orchard crates and stored for at least twenty-four hours before being packed.

Not only is it profitable to pack and ship fruit in such a manner that waste is reduced to a minimum, but it is the proper way of handling one of our finest sources of food supply.

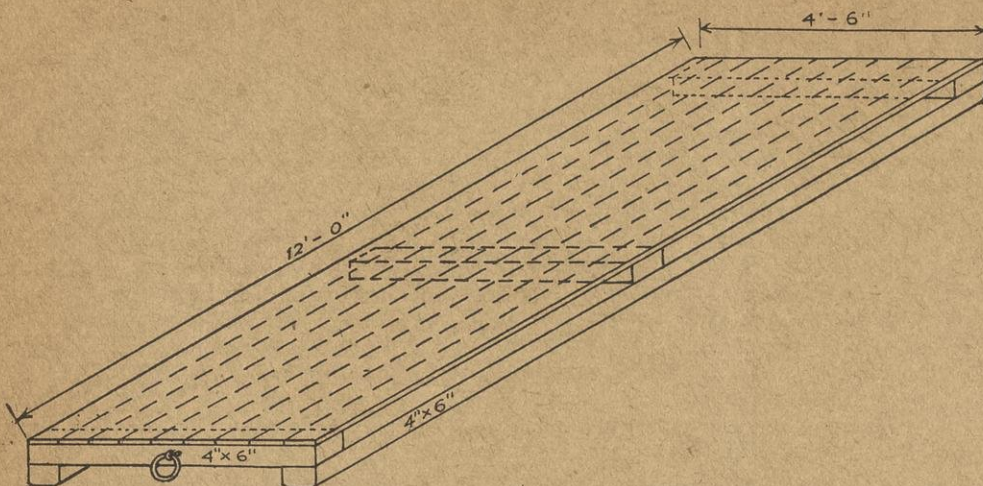


The long distance British Columbia fruit growers have to ship their fruit and the consequent heavy shipping charges has compelled the growing of high class fruit and its careful packing. The gathering of a heavy crop in a British Columbia orchard is shown.

Prevention of Winter Injury

R EPORTS from the fruit districts of Ontario and Quebec show that large numbers of fruit trees—even more than it was feared might be the case—have died this season as a result of the severe winter of 1917-18. Many of these trees did not show last year how seriously they had been injured. The heavy losses now apparent are leading fruit-growers to consider even more seriously than last year what can be done to prevent similar losses in the future. Speaking on this subject at the last annual convention of the Ontario Fruit Growers' Association, Mr. J. A. Neilson, of the Ontario Agricultural College, pointed out that this problem is not easy to solve. Until we can produce by plant breeding and selection, good varieties that are

hardier than any we now have, we cannot hope to escape some loss by winter killing, in another season such as 1917-18. This work is of necessity very slow and cannot be undertaken with the hope of immediate returns by the fruit grower. Work of this nature is under way at the Federal and Provincial Experimental Stations, but in view of the losses which have been sustained during the past ten years it should be carried on much more extensively than heretofore. The interest on the capital value of the fruit trees destroyed in Canada during the past two seasons would adequately finance an undertaking of this kind. It is true that the present generation of fruit growers will not derive much benefit from this work, but we should not forget that we



At one of the conventions of the Niagara Peninsula Fruit Growers' Association, Mr. Jay E. Allis, of Medina, N.Y., spoke highly of a float he had used for hauling his peaches out of the orchard. The illustration shows the method of construction and dimensions of this float.

are now reaping the benefit of the labor of horticulturists who have gone before and if we are to do for others as we have been done by, we should continue this excellent work and do something for those who come after us.

Cultural Practices.

Preventive measures which might be employed to advantage, said Mr. Neilson, are only those which are considered to be the best cultural practices. The value of these cultural practices and the principles to be observed in the selection of sites for orchards have been more clearly emphasized by what has occurred.

In regard to cultural practices, I would suggest that orchard cultivation be started as early in the spring as the soil can be easily worked. The time when cultivation should be discontinued will depend upon such factors as latitude, soil and climatic conditions. As a general statement, I would say that cultivation should be discontinued earlier than is the usual custom except in dry seasons and on light soils. In such cases it would be wise to cultivate later than on heavier soils or in seasons when rainfall was abundant. For apple orchards the range of dates for stopping cultivation would vary from early in June for the north to July 1st in the southern sections. Peach orchards, of course, should be cultivated somewhat later than apple orchards, up to August 1st in most cases.

Cover crops exert a beneficial influence in checking late growth, help to ripen the wood, hold the snow, and may prevent deep freezing in light soils.

Bearing orchards should be supplied with plant food in sufficient quantities to keep the trees in good thrifty condition, but care should be exercised, however, to prevent forcing the growth of trees, as this would pre-dispose the trees to several forms of winter killing.

The drainage for soils intended for fruit growing is of the greatest importance as a means of preventing winter killing. Soils which are not naturally well drained should be thoroughly under drained. This will pay handsomely as trees growing on well drained soils will invariably give much better results than those on the poorly drained soils.

Thinning of Fruit.

In seasons when labor can be obtained at a moderate price it will pay to thin the fruit on heavily laden trees. Heavy bearing is a big factor in predisposing trees to winter killing and it would seem that for this reason alone the practice would be profitable.

Professor Caesar and others have repeatedly pointed out the benefit to be derived from thorough spraying as a means of controlling plant diseases and insect pests. Experience has shown very clearly that thorough spraying is of definite value in preventing winter killing by destroying insects and diseases which by their attacks weaken the trees and thus pre-dispose them to winter killing.

A good wind break, properly located, will lessen the amount of winter killing. This applies especially to the colder sections of the province, but would apply equally well to any section where the orchard was exposed to high cold winds or was located on exposed sandy or gravelly ridges. In some of the warmer areas of the province where natural conditions are more favorable or where land is very expensive it may not be necessary or profitable to plant windbreaks, but there are many other places where wind breaks would be worth while. Windbreaks should not be located too close to the trees as they might cause a dead air space in their immediate vicinity and thus favor the development of fungus diseases, such as apple scab and sooty

blotch. If set back some distance, say from 150 to 200 feet or more, the protection afforded would be effective and trouble from diseases would be obviated.

Choice of Sites.

A site for an orchard should have good air drainage as well as soil drainage. An ideal site is one on a gentle slope, (preferably to the north or north-east) where the cold air can flow down to the lower areas. One should not locate an orchard in a hollow where cold air settles, as such a site will favor injury to the trees in winter and to the blossoms during cold spells in the spring.

Hardiness of Varieties.

With the exception of most of the crab apples and the American plums, very few kinds of fruit or varieties have proven absolutely hardy. At Ottawa some of the hardiest Russian sorts were injured. There is, however, a marked difference in the cold resistance of varieties. I am giving herewith a list of varieties which have proved somewhat cold resistant and also a list of varieties which have been rather seriously injured.

Varieties least affected—Hibernal, Duchess, Patten's Greening, Dudley, McIntosh, Yellow Transparent, Wolf River, Wealthy, Haas, McMahon White, Snow, Alexander, Baxter Golden-russet, Scarlet Pippin, Spy.

Varieties most affected—Baldwin, Ontario, King, Cranberry Pippin, Wagner, Spitzenburg, Gravenstein, Hubbardston, Stark, Pewaukee, Ben Davis, Bottle Greening, R. I. Greening.

Pear and Cherry Slug

During June and July thousands of cherry and pear trees in the Niagara district and western Ontario were defoliated by a leaf-feeding, blackish, slug-like insect called the pear and cherry slug. There are two generations of this pest. As the second generation is liable to be as destructive as the first, we would strongly urge fruit-growers to examine their pear, cherry and plum trees from time to time during September. If slugs are found on the foliage, the trees should be sprayed promptly with arsenate of lead (2½ lbs. of paste to 40 gallons of water.)—W. A. Ross, Dominion Entomological Laboratory, Vineland Station, Ont.

In real good soil peach trees should be set at least 20 feet apart; they would be better still if 24 feet apart. The distance will depend upon the soil. If it is known that a certain soil will grow a good big tree, then the trees should be planted to allow for the larger growth.—A. G. Pettit, Grimsby, Ont.

The Problem of Wintering

By G. A. Deadman, Brussels

TWO COLONY WINTER CASES.

TO a beginner in apiculture this wintering is a problem indeed. One recommends wintering in a cellar, or it may be, above ground repository, while another advises leaving them on their summer stands. One advocates sealed covers and another wants upward ventilation. One says let the entrance be larger and another says the opposite, one uses straw for packing and someone says forest leaves are better, while Mr. Dunn claims nothing equals cork-dust. One recommends packing four in a case and another prefers just two. Some winter in clumps of several side by side and others bury them something after the manner of pitting potatoes or turnips and those who don't know ask "What kind of luck did you have wintering your bees"? as if there was a good deal of chance about it. When long treatises have been written about the ventilation part alone, how can I say all that I want to and confine it within reasonable limits.

CELLAR WINTERING.

I wintered bees in a cellar for many years, but I cannot say I made a success of it, although the cellar was fairly dry but not unduly so, and although I had an extra half brick wall in addition to a good one of stone, I always felt that the number of bees on the floor of the hive as well as that of the cellar was out of all proportion to those wintering outside. Others have remarked the same, while some seem to have a minimum of loss in this way. Even with a cellar such as I have with its double windows, as well as doubled again by boards inside and out and banked with snow when snow was to be had, I could not keep the temperature at 45% Fahr., when I found it best. I suppose living rooms above with only a floor between those who live above and the bees below would militate against this. What I think would be ideal would be where most of it would be underground and well covered above. In Huron County we could have our choice, but not so here, however, in Kent County, for the water is too close to the surface to have much of a cellar below ground, and so my bees are of necessity wintered outside. I am not sorry, however, for the wintering problem is solved for me.

Practically the only winter losses now have their origin in queens that should have been replaced. Some seasons our time has been so limited that we could not give each colony a thorough examination. More would have escaped notice if their condition had not been indicated by their indifference in taking down the sugar syrup that may have been given them.

Long ago we thought that a case to contain two colonies always packed would be nice to have, so we made it large enough to contain two hives built in, having a space of about four inches at ends and back and about two in front. Notwithstanding what others may say, I want my winter packing of such a nature that it can be removed entirely for summer manipulation. I prefer hives that are interchangeable with the super and that can be moved about at will, and so we had to scrap the inside of those winter cases, but the outside remains the same, so when we pack for winter we bring them from their summer repository, which is an open shed, or piled two deep under some apple trees, and lift the two hives in place. By doing this before we feed it is an easy matter. The straw and chaff packing remains from year to year. We bought some sacks that were large enough, so only one was required on top, but usually we use sugar bags. I like oat straw that has considerable chaff in it. After filling, by tramping on them for a second or so they flatten down, and three do the work nicely. These are much to be preferred to something thrown in loose. We remove the covers and place a honey board on each colony. Many of these are made of building lath, but some others of spruce that I thought was dry. The entrance is reduced to about 2½ inches by five sixteenths of an inch deep. We know nothing about the moisture we read about, for everything is dry.

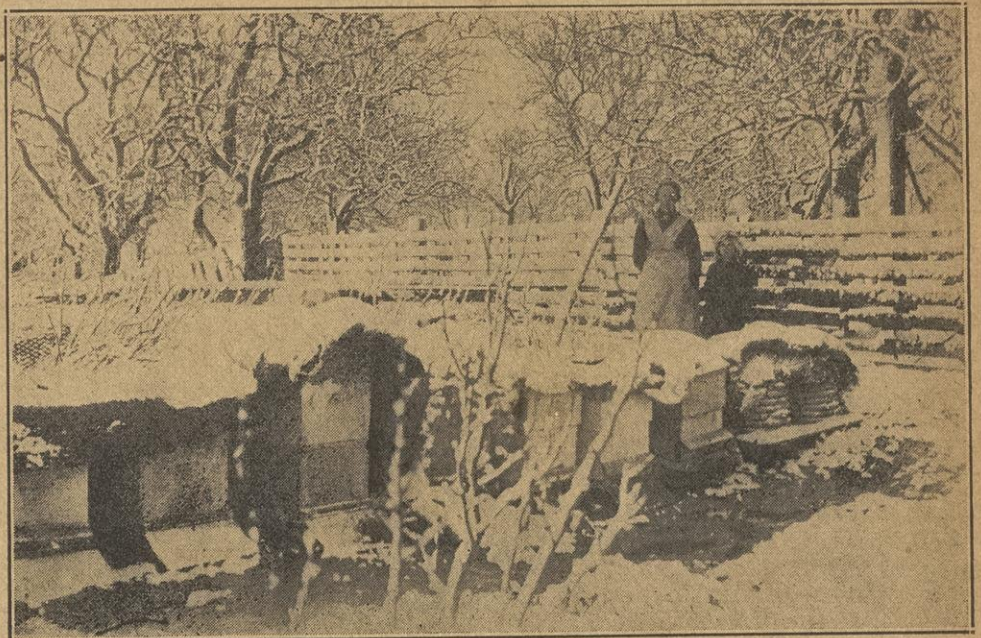
I was told that during the winter of

1917-18, after one storm they had, every bee hive, or rather winter case, was covered with snow, but as a rule they don't have much here. It is supposed to be milder here than in the northern part of Ontario, but it was strange, for while at Brussels, in Huron County, the lowest was zero, during the winter of 1917-18 it went as low as 20° below in Chatham, which is about 22 miles away as the crow flies.

WIND BREAKS.

It is now conceded that wind breaks are a big asset in wintering bees. Our honey house and buildings extend all along and behind on the south side, which is all the wind break I have. I am planning to have the first row of winter cases on the west practically touching each other, which should help some, as the prevailing winds are from that direction. The entrances all face east. In the early days I had packed facing west, i.e., every other row. This would leave every row back to back, which was very nice from the standpoint of working, but after the first row facing west was nearly put out of commission one cold winter I had all face east. I like the double winter cases for it is generally conceded that having hives in pairs is best, and so no moving about of hives is required.

For our system of management we would not care for quadruple winter case, and either have to move some colonies or leave them in sets of fours. The covers are hinged in front and slope to the back. I have some collapsible ones and also some single winter cases, but have found the double ones as



Part of the Apiary of P. Balk, Oosterleek, Holland. This photo was taken in the month of April. Mr. Balk is a user of Root hives and Dutch.



In the apiary of S. B. Bisbee. Bees covering queen cells on excluder. Bees are clustered about two inches deep.

described the best. Having the packing ready in each hive it is not so serious a matter fixing up for winter. The unpacking is extremely easy. With the help of a man we removed about eighty of these double winter cases, carried them or drew them away on a hand waggon, put clean bottom boards under every hive, estimated and marked on each hive the amount of stores they had, and all in a day of ten hours. As far as I remember this compares favorably with the time it would require to remove them from a cellar. When the winter cases are left on as long as possible, as recommended in last article, they are certainly a decided advantage during a cold and changeable spring.

Whatever winter case you adopt let there be no projection at the entrance. Better than coming level with the front of the hive is to have a little recess which is very easily made when there is a chaff space above, or you could let the front board project the thickness of itself past the entrance. This is not so important unless snow is troublesome, but one never knows when it will be.

QUESTION BOX

Conducted by H. G. Sibbald

Introducing a Queen

I have a colony of bees apparently queenless, yet egg are being laid in worker cells. Some cells have quite a number of eggs in them. Have tried twice to introduce a just hatched virgin, but they disappear in a few days. How can I introduce a queen into this colony, and what is the trouble?

ANS.—Your colony has probably "fertile workers." They lay drone eggs and are incapable of reproducing worker bees, yet are jealous of queens and cause their disappearance in most cases.

The plan I use is as follows: Remove the colony from its stand, place upon it

instead a nucleus with laying queen and two or three combs of brood. Add to this from day to day one or two combs with adhering bees from the fertile worker colony until all are united.

If you haven't a nucleus go to a strong colony, find the queen and take her away with two or three combs of hatching brood to form a nucleus. This colony from which the queen is taken will requeen themselves or accept a queen in the ordinary way of introduction.

When to Feed for Winter

When can I feed my bees for winter?

ANS.—As soon as the brood is hatched out and the combs are empty. The exact date may differ, depending on the time the honey flow ceases.

Size of Langstroth Hive.

What is the size, width and depth of a ten-frame Langstroth hive, also an eight-frame?—F. E. C.

A ten frame Langstroth hive body measures 16 $\frac{1}{4}$ " by 20" outside measurement, and is 9-16" deep. The eight frame body is 13 $\frac{3}{8}$ " by 20" and 9-16" deep. The width given in the above measurements is the width which the A. I. Root Co., Medina, Ohio, make their hive bodies. The Ham and Nott Co. of Brantford, prefer 16 $\frac{3}{4}$ " and 14 $\frac{3}{8}$ " widths respectively.

Bees in Relation to Orchard Pollination and Spraying*

Prof. P. J. Parrott, Geneva, N.Y.

AN interesting aspect of the subject of winter injury which has so seriously occupied the minds of fruit growers during the past season

* Extract from a paper read at the recent annual convention of the New York State Fruit Growers' Association held in Rochester, N.Y., which was attended by a number of Canadian fruit growers.

was the extensive killing of bees in apiaries by prolonged low temperatures; as a result, there were only a very few of these insects in many orchards at the period of blossoming. There was likewise evident at this time considerable destruction by the winter of blossom buds, especially of stone fruits, and trees that blossomed heavily often showed a high percentage of flowers with defective structures. Notwithstanding these adverse conditions there was on our experiment station grounds a splendid crop of apples with respect to both yield and quality, while stone fruits, with the obvious exception of peaches, produced quite satisfactory crops, especially the plums.

The absence of bees in orchards at the period of blooming was generally noted in western New York and had the effect of reviving interest in the role that these insects play in the cross fertilization of fruit trees. Some growers, convinced of the importance of bees as pollinating agents, and desiring to insure proper fertilization of their fruit trees, are planning to maintain their own bees or have induced beekeepers to establish apiaries in their orchards. On the other hand, as shown by letters in our agricultural press, there are fruit growers who are quite skeptical as to the service that bees may render, and some individuals take the extreme position that spraying will hereafter be conducted with little reference to its effects on the activities of these insects. In so far as the difference in opinions centres about proper spraying practices, it cannot be emphasized too strongly that the interests of the grower and apiarist are not antagonistic, but are reciprocal; and neither one can well dispense with the services of the other.

The bottom has certainly not yet been struck in arriving at a complete understanding of the phenomena of cross fertilization and setting of orchard fruits. As far as specific advice to growers as to how to improve the conditions of their plantings in these respects is concerned, there is not a great deal one can get his teeth into. The outstanding facts are: That pollination is a recognized necessity and that there exists a dual interdependence between flowers and insects. While bees may not be the sole means of cross fertilization of orchard fruits or equally effective every season, they are, according to our present knowledge, indispensable agents, and a grower may well think twice before he adopts any course of action which prohibits their activities as pollen bearers.

Plan to attend the Beekeepers' Convention in Toronto in November.

Notes and Comments

by J. L. Byer

JUDGING by the report of the Crop Committee as well as by many letters received from beekeepers in various parts of the province, the crop of honey is about reversed as compared with last year. In 1918 the West had a heavy crop while the East gave a light surplus. Central Ontario, at least the district around Toronto, has had only a moderate crop for both 1918 and 1919, while the East this year has a heavy crop and that of the West is very light. So all things considered things have balanced up pretty well for the two seasons, although no doubt there are some localities that have had a good crop two years in succession, while on the other hand, other places may have had a failure this time.

Buckwheat Prospects.

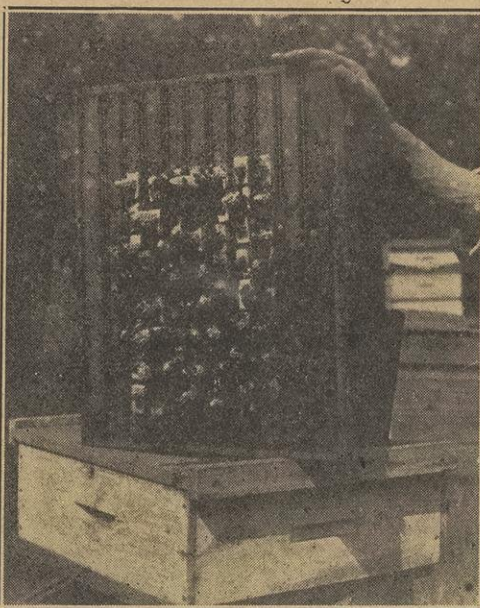
A great acreage of buckwheat this year in many places, but it is unusually late in some cases owing to long drouth that kept much of the seed from germinating until late rains came. Whether the late buckwheat will yield nectar to any great extent depends upon the weather, but usually we get little buckwheat honey here in York County after September 1st. This year the bulk of the acreage in buckwheat will be at its best by September 1st, so if we happen to get hot weather in early September the flow may last longer than in other years. To date (August 22) flow from buckwheat has not been nearly so good as last year, as weather has been cool, and also dry until a few days ago. Copious rains have now soaked the ground and conditions may be better from now on.

Re honey prices, dealers still are holding off from buying, but in meantime many producers have sold their crop to old customers at prices along those of last year's figures, and judging by the amount of honey in sight and high prices of all other food commodities, there should be no great drop in price of honey—possibly there may be no drop at all in so far as this year's crop is concerned. Personally we sold at same price as last year, and we shall do no worrying if prices go higher than what we obtained. I offered the purchaser of the most of our honey an option of being guided by prevailing prices on honey six weeks from date of inquiry, but they decided to take it at present quotations, so I feel that no advantage was taken of the firm in question.

Moving Bees.

In the past few years I have moved bees in all sorts of conveyances, varying from a wheel-barrow to a freight car, but it was only recently that we had the privilege of trying out a ton motor truck at this job.

A few days ago my son and I went up to Bobcaygeon with a Ford motor truck and loaded up thirty-one colonies of bees. We left there early in the morning and were home for dinner, and the bees arrived in good shape, not a comb being shifted. Possibly I might explain that my son did the driving, otherwise there might have been a different story to tell, for he is a careful driver. No question but that the motor truck is the method of the future for moving bees, as it has many advantages over moving by train, and the cost should be no greater than by other methods. The truck we used had large pneumatic tires on the rear instead of the solid tires used on so many trucks, and for moving bees I think the pneumatic gives best service. An average speed of twelve miles an



Another photo of the same cells after the bees have been smoked off. There are 36 queen cells shown in the picture.

hour was made on the trip up there when we had little load, while with the load we made ten miles an hour. Roads were wet with heavy rains, but we had practically no mud roads, although we had quite a lot of hills for part of the eighty miles.

Sweet Clover.

Driving through the country recently some distance from our home, I was surprised to see the amount of sweet clover showing up in stubble where it had been seeded this spring. Evidently for a while at least in the near future, sweet clover is destined to cut quite a figure in the honey crop of Ontario. In the vicinity of Cannington as well as other places, sweet clover has been a heavy yielder this summer, and it looks as though it will yield in dry, hot weather

when other clovers will not yield. Evidently this is explained by the fact that sweet clover has a long tap root and goes down to damp soil, while alsike and white clover have shallow feeding roots and dry out sooner. One of the factors responsible for the heavy seeding of sweet clover at present, is the high price of red clover seed—indeed many could not get any at any price last spring, and predictions are made by some who should know that conditions will be worse next spring.

Clover Prospects for 1920.

Recent heavy rains that have been general, I believe, have added greatly to the prospects of a clover honey crop next year. While in some localities the alsike seeded this spring is all killed by reason of prolonged drouth, yet in many places, including our own section, the alsike is now looking good and will have a fair top for winter. The fields of sweet clover referred to had such a rank growth that the binder had cut much of it off and the bottom of the sheaves of grain were full of the green stuff.

Dry weather seems to have no injurious effect on this plant, and I expect these rank fields can be pastured this fall, but I am not sure whether it would be injurious to the young plants or not in so far as wintering is concerned.

A Wax Press.

Some years ago I tried out a crude model of the Sibbald wax press and I was not at all in favor of the work it did then, and I so stated in a public way at that time. Recently I purchased one of the presses and last winter we melted up a large quantity of combs bought in an outfit near home. While this press was an improvement on the one formerly used and proved to be a great success in every way, yet the main cause of our getting such different results as compared with our first effort, was that we did not use the first one properly. With our experience last winter and knowing how to use it now, I unhesitatingly pronounce it the best thing in the way of a wax press that we have ever used, and we have rendered up thousands of pounds of wax by almost every means known, during the last fifteen years. At some future time I hope to go more into detail as to the proper way of working this press, not but that good directions have been given in the past, but because the subject is an important one and wax is a valuable product—too valuable to be wasted, for certainly thousands of pounds of wax are wasted every year in Canada.

What I say in reference to the Sibbald press applies to rendering old combs or refuse that has some wax in it. For capping we prefer to melt all up and put through the Hatch-Gemmel press, as it makes a good job and is very fast in operation.

My Method of Wintering 100%

By John T. Wilson, Petrolea

It is not the intention of the writer to discuss the orthodox methods in vogue for wintering bees, but rather to give the methods which I followed last fall and wintered 100% of my colonies.

Needless to say, wintering comes first and foremost on the list of problems with which the apiarist has to contend. In fact upon the fall management depends the future honey crop to a great extent.

Just after the crop is exhausted I make sure that all colonies have a laying queen and all queens two years old are replaced if at all possible. Last fall, owing to the large honey crop and heavy brood-rearing during the honey-flow, nearly all queens were superseded. In fact about 75 per cent. of the queens seen, while clipping last spring, were reared the previous fall.

Feeding, which is done by the inverted honey pail method, begins about October 1st generally, although I intend to commence one week earlier this fall. As there is practically nothing for the bees to work on in this locality this fall, I am obliged to feed a good many colonies immediately after taking off the supers. Owing to the drouth in Western Ontario—very little rain since June 1st until recently, August 15th—the golden rod, aster and sweet-clover made very little growth.

To prepare the syrup I heat 50 pounds of water in a small tank, which I use to liquefy honey in sixty pound tins also, over an oil stove, to the boiling point, and put in 100 pounds of sugar, stirring constantly until dissolved. It is now drawn off into 10 lb. honey pails, after which 50 lbs. more water is put into the tank to heat. The pails, after having their lids put on tight, are set aside for the present. These lids are punched with a shingle nail, about 50 to 75 holes giving good results. While the water is heating one can usually find some work to do in the average honey-house or apiary.

When the required number of pails are filled the feeding begins. This feeding must be done

towards evening or on a dark, dull day, or robbing will be the result.

A super cover with a hole large enough for putting in a bee-escape when necessary, and a few 2" or 3" holes serves as a cover over the brood chamber. When used as a bee-escape board put pieces of tin over the holes, not filled by the escape. The pails are inverted over these holes,—one, two, three or four to the colony when necessary. An empty brood-chamber or super is put on, and an ideal telescope cover makes all secure and robbers cannot enter except via the entrance. To prevent this I make sure that the entrance is contracted down to seven-eighths by two or three inches, according to the strength of the colony. I must say that it is extremely important that the hive be perfectly level or the pails may leak too fast, and the syrup drown the bees below and often run out at the entrance. Needless to say the average beekeeper knows what follows. The prevention is easier than the cure. These super covers or feeder boards as I call them are left on all winter above the excluders. As I haven't enough to go around the whole yard, a few colonies are prepared by another method to be described later on. I also use a few bottom-board feeders similar, I think, to Mr. Chrysler's, which I like very much as a feeder, but not as a bottom-board in winter, for two reasons. There is only three-eighths inch bee space between the bottom-board and bottom-bar of the frames, and the bees do not carry out the dead bees during the winter, as well as with the regular bottom-board. I think the bees get chilled while crossing the vestibule just inside the entrance.

I usually feed before putting into the cases, because I haven't a storage place for the extra packing, which goes on top of the hives. I neglected to state that the hives are all weighed before feeding and the weight marked on the hive or cover—on the cover if I intend to put them in the cases before feeding. I like them to

weigh eighty pounds with the cover and bottom-board. The bees' combs, and hive, complete, I estimate at about forty pounds. If a hive weighs sixty pounds I put in three ten pound pails of syrup. In fact five pounds more if I have it. This extra amount is not wasted, because they will use it next spring, if there isn't an abundance of fruit-bloom, dandelions, etc., for brood-rearing, and thus save the equivalent of honey.

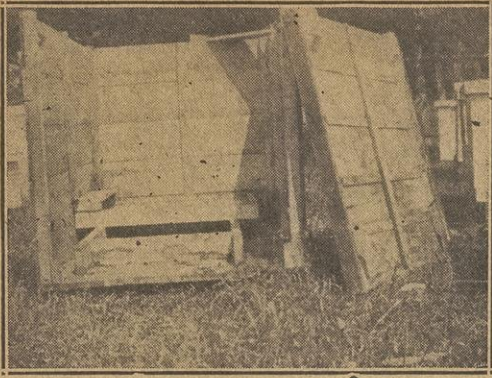
We are now at the part of the business which requires the services of a strong man or two, namely, putting the colonies into the cases and packing. I use the regular quadruple case, the walls of which are made of pine-Siding, cover three-eighths inch tamarac covered with Paroid or similar roofing material, and bottom of seven-eighths inch hemlock. One side comes out of this case, and the hives are simply slid in on the hive rests, three-inch packing being underneath the hives and five inches around the sides, with ten inches on top. These cases are rather bulky for one person to handle, especially in a crowded apiary. They give good results in wintering bees, however.

The case which I prefer is a double case made of three-eighths inch stuff throughout, except the floor, which is three-quarter-inch material. The dimensions are as follows: Length, three feet six and a quarter inches; width, two feet four inches; height, two feet outside measurement. The entrance is made in the long side, five inches up from the bottom, five inches from the end and is four feet by one and a half inches. The cover telescopes down two inches on the sides of the case. It is also covered with Paroid. The cover must be made one and a half inches larger each way (inside measurement) than the case on account of the corner pieces.

As I have a saw table, I get the stuff to make the cases re-sawed and dressed at the planing mill, and do the rest of the work myself. To hold the corners of the cases firmly I get two-



In British Columbia, where flowers and fruit grow to perfection, numerous fine horticultural and agricultural exhibitions are held. The illustration shows an exhibit of honey with a background of delphiniums and other perennial flowers at the Nelson Rose and Sweet Pea Show, July 23, 1919. (Photo courtesy W. J. Sheppard.)



Inside view of the case used by Mr. Wilson for wintering and described in this article.

inch by 2-inch stuff, a corner of which one and one-eighths inches square is ripped out to form the corner post. The remaining piece, which is a right-angle, is nailed on the outside of the corner as the corner board is put on a house. This makes a neat-looking job and will keep rain and snow from the ends of your lumber. The lumber is tongued and grooved and for the best results must be well seasoned and free from large knots. There is a post one-inch by one-inch between each corner post to strengthen the side and end walls and prevent the lumber from warping. I use three-inches of packing underneath the hives in these cases also, and must therefore have hive rests on the floor. These are made as shown in the snap-shot. One end of this case is not nailed in solid but fastens with a pair of Van Dusen hive clamps at the top. The corner pieces of the case prevent it from spreading and the bevelled blocks at the bottom hold the bottom of the end in place.

The entrances may be contracted down to three-eighths inch by one and a half inches by means of a hardwood block, which is held in place by screw-nails if desired, and swung up vertically when a full entrance is desired.

The packing is an important part of the fall work. I use leaves principally, and prefer them. They are hard to handle, however, on a windy day. As I said before, I leave the feeder-boards on the last colonies fed covered with burlap, the others having the excluders only on them, covered with a piece of burlap or old carpet, and generally a sheet of newspaper over this and pack leaves in tight as possible around the hives and put ten inches on top.

I have wintered our colony for two years now in a one and a half storey Langstroth hive. This colony has not tried to swarm during this time, and is always one of my best honey producers. Furthermore, they always have enough to winter on. I intend to pack more by this method this fall. The shallow is underneath winter and summer.

I put two colonies in Demuth cases as described in "Gleanings" some years ago, and must say that they wintered in an ideal condition. In the early spring I removed the packing to investigate, and there I beheld a sight which would please any true apiarist. There wasn't an end bar to be seen. The frames stand on end in a cheaply made case inside of three regular ten F. L. hive bodies or supers, with sawdust all around top. There were bees everywhere, and such beauties,—not the old, dark, worn-out fellows which one often sees, but gentle, three-banded Italians. The only objections to this method of wintering is that you must unpack early to give room, cannot crowd a big colony down on eight frames, and it requires a lot of empty bodies or supers to pack many colonies. It isn't a very pleasant task to put these colonies into the inner cases either, during the robbing season.

I stood one ten F. L. hive on end inside of three hive-bodies and packed all around with sawdust. They wintered good, too. An eight frame hive would work better inside of the ten frame bodies.

All my colonies face south except the quad-

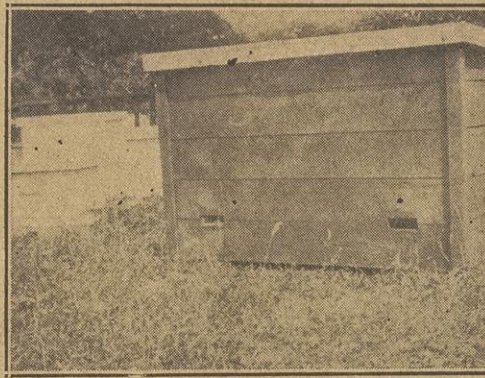
ruple cases, which face east and west. I think the east is the best way here, because we get long, cold storms with high winds from the south west. In fact, the colonies in the south row and the west end of the yard are generally the weaker in the spring.

There should be a shelter or wind-break of some sort around an apiary, but I have my bees situated in an orchard, the yard being surrounded by a four foot picket fence only. A light board fence eight or ten feet high would be beneficial, I believe, in spite of the fact that the cheapest pine lumber is \$65.00 per thousand.

It is a great comfort to have all this packing done before heavy frosts come, and the little fellows safely "tucked away" for their long winter's rest.

Winter Stores for Bees

In the experiments with bees at the Experimental Farms, it was early recognized that the nature of the winter stores is an important factor in successful wintering, and the experiments have confirmed this. Experiments at the Central Experimental Farm indicate that clover honey (alsike and white clover) makes reliable stores for wintering, but poor results have followed the use of stores that granulate hard during the winter. A colony wintered on dandelion honey came out in spring very weak; the honey had granulated hard and the bees had uncapped it but could use very little of it. In some years a mixed honey that comes largely from clover, sweet clover, and other plants, granulates hard with the same result and causes heavy loss. Buckwheat honey has been found wholesome,



The case that gives Mr. Wilson such excellent satisfaction and winters his bees 100%.

but some of the other honeys gathered in the fall have been found unwholesome, especially in marshy places in Nova Scotia, and have caused dysentery and death. In one season in Northern Ontario, the fall honey was not capped over and failed to ripen and soured, causing dysentery and heavy loss. Honey containing juices collected by the bees from over-ripe fruit killed a colony before spring, so also did cane syrup used as an exclusive food for wintering. Syrup made from refined sugar, two parts of sugar to one of water, fed to the bees in the early fall, has given fairly good results as an exclusive winter food, and has been found to be the best practical corrective for stores that are slightly unwholesome. Year after year at the Central Farm, colonies on natural stores that have been fed liberally with this syrup come out stronger in spring than those that have wintered on the natural stores alone. Syrup made from raw cane sugar has given less satisfactory results than that made from refined sugar.—EXPERIMENTAL FARMS NOTE.

Rationing Bees in Britain

According to a recent despatch from London, England, bees in the Old Land are to have a ten pound sugar ration for each hive as artificial feeding to ward off starvation during the coming winter. Commenting on this the Toronto Globe in an editorial says:

"The British Food Controller has added a new one to the many tasks that still confront him daily. This time it is the providing of sugar rations for 'social honey-gathering' hymenopterous insects of the genus *apis*, otherwise bees. Ten pounds of sugar are to be allotted for each hive as artificial feeding to ward off starvation and it is presumed that anyone who tries to get the ration for human busy bees instead of for the genus aforesaid will be badly stung. Very few people succeed in fooling the British Food Controller and his regulations more than once. No doubt a ration card will be an accompaniment of the plan, and the British have been so apt at adjusting cases to circumstances during the war that some budding genius may invent an article whereon bees with stings may punch receipts for themselves and their co-workers.

"The rationing of the bees is a gentle reminder to some restless people who think unrationed Canada has too many irksome restrictions, that plenty in Britain is a word only, especially in respect to food. Many who express their dissatisfaction with Canadian laws and regulations are finding on reaching Britain that bees are not the only things that sting."

Drastic Bee Legislation

On June 1, there came into force in British Columbia the Apiaries Act of 1919, a piece of legislation designed to promote the honey industry, of drastic and far-reaching provisions. There are features about this beekeeping legislation strongly reminiscent of the manner in which the famous British Columbia compulsory Tuberculin Test Act led the dairying industry by the nose, so to speak, toward better things. The legislation is calculated to improve management methods among beekeepers, facilitate better sales success, and implement the rapid elimination of the disastrous disease, foul brood.

Every person who keeps bees is compelled to register his name with the Provincial Department of Agriculture, paying a registration fee of \$1.50 for six hives or under, and 25 cents for each additional hive up to a total fee of \$5.

To facilitate inspection, every beekeeper must keep his bees in a frame hive. The old box and other home-made hives characterized by lack of moveable frames are legislated out of existence.

No bees may be moved from one farm to another until examined by a Government inspector and certified free from disease. So long as a district is known to contain foul brood, this provision remains operative.

Finally, a regulation both in the interests of producer and consumer—the act requires that sellers of honey must label the container with a statement giving the net weight and stating that it is British Columbia honey. The net weight requirement will hurt no one, while the statement that it is British Columbia honey ought noticeably to promote sale. This province produces honey of a very superior grade, none better of imported origin ever being sold here, and publication of the fact is good advertising.

The hardest job some beekeepers have, or at least the job they make the hardest work of, is lighting the smoker. This is the first thing to instruct the beginner in. Take a small bit of light cotton rag (if it is greasy so much the better) or a bit of oily waste; get it burning thoroughly, all afire, then drop it in the smoker (be sure the grate of the smoker is clean, so there will be good draft.) Then drop in another small rag; when this is also well afire, put in all the burlap you need, but don't crowd it down, for this will obstruct the draft. In using a smoker all day, empty out the ashes often enough to keep a good draft.

The annual convention of the Ontario Beekeepers' Association will be held in Toronto in November in connection with the convention of the Ontario Horticultural Association. A fuller announcement will appear in the next issue of The Beekeeper.

HERE AND THERE WITH THE BEEKEEPERS

Short Reports of Ontario Conditions

Port Hammond, B.C.

August 6th.

Bees are doing fairly well here, though it has been very dry through June and July. The dry weather has not affected the honey flow as much as it has in Ontario. A second crop of clover may help to account for that. My bees will not do quite as well as last year, but expect they will average 90 lbs. to the colony.

Canfield

Aug. 11th, 1919.

Honey crop this year from clover will average 80 lbs. per colony. Bees have been moved to the buckwheat section and are starting in well.—S. B. BISBEE.

Inglewood

Aug. 19th, 1919.

No dark honey flow to date. Bees hardly keeping themselves brood hatching and queens slowing up in laying. Drones are gone; looks like the end of the season. Honey is selling well locally, and some enquiries from dealers.—H. G. SIBBALD.

Simcoe Co.

Aug. 19th, 1919.

Re honey conditions here, we were very agreeably surprised. When we had almost given up hope of a honey crop and at the very tail end of the clover bloom, honey came in very fast, and 1919 will not be recorded as a lean honey crop, but a good average. At time of writing prospects are good for a buckwheat yield.—R. G. HOUGHTON.

Zurich

Aug. 21st, 1919.

There was no honey crop of any amount in this section, except a little dandelion. Some buckwheat in bloom for the last three weeks, but not more than to keep the bees going from it. The hive scale does not move. The drought is over now; since Aug. 12th we have rain every day. Buckwheat should improve now, but time is passing. Bees are not up to standard in strength. We have lately done a little feeding to stimulate brood rearing. We find many young drone-laying queens. It seems the drones had even been discouraged.—JACOB HABERER.

Merlin

Aug. 22nd, 1919.

Sweet clover has been giving a little honey—considerable if we were to judge by what there is of it. To be near a large supply of this would be, I think, the beekeepers' paradise. It is wonderful "stuff" to yield honey; sorry though we have no half hives of honey this year, and our feeders will be useful once more. There needs will be between twenty and twenty-five pounds of sugar syrup, so you will know there has not been much doing.—G. A. DEADMAN.

Guelph

Aug. 25th, 1919.

Honey is going to be very light in this district. Bees will be in good condition for winter. There is enough nectar coming in to keep them breeding.—F. W. KROUSE.

Belleville

Aug. 27th, 1919.

Plenty of buckwheat in our section, but bees have not gathered much honey as yet, and we are not looking for much of a crop. Bees seem to be in good shape and plentiful in numbers.—J. N. CHISHOLM.

Lanark Co.

Aug. 28, 1919.

Fall honey that appeared very promising has turned out almost a failure owing to unfavorable weather conditions. Indications are to require heavy feeding. Owing to the sugar situation, beekeepers who have not already their supply find it almost impossible to get any.—A. McTAVISH.

Our Correspondents

In this department of The Beekeeper we give a cordial welcome to all our readers to express their opinions on any subject of interest to beekeepers. The publication of a letter, of course, does not necessarily imply an agreement with the views expressed.

A Backyard Apiary

EDITOR, BEEKEEPER:

I am sending you a photo of my backyard apiary, which may be of interest to your readers, showing my winter and summer bee hives, double walled, cork packed all around, cover and bottom boards packed also.

The bottom is fastened on the body with hive clamps. Notice the water drip and cover over cork, which forms a frame rest; the joints also are mortised and tenoned, and put together with paint mixed rather heavy, which prevents rot.

The picture shows my shallow supers just before taking off the honey. The depth is one,



The backyard apiary of Robt. Richardson, Port Colborne. He uses the double walled hive and, like Mr. Dunn, swears by cork packing.

half the size of the brood frames. By putting two supers together I can use my brood frames if desired, to have combs drawn out ready early in the spring for artificial swarming, before the honey flow comes on. Those supers are for the extracted honey, of which I have about 500 lbs. from my three swarms that I wintered over, besides making three artificial swarms. I bought in the spring four one lb. and one-half lb. packages of bees, which are doing fine.

The lake shore being only one-eighth of a mile, from my apiary, only leaves one-side for the bees, to work on. I think they have done exceedingly well considering the dry weather we have had.

The hive that I use is the Richardson standard frame, size ten inches by fourteen and five-eighths inches outside measure. The hives that I make are fifteen and three-eighths inches square inside, and hold eleven of the Richardson frames. The depth of the hive is eleven inches, leaving about one inch below the frames, so that the dead bees that drop won't clog up the air space below the frames in the winter.

The three swarms that I wintered over came through very strong in numbers, with lots of stores left in their hives. The exceptionally

mild winter and the fact that I use the cork packed hives are the two chief reasons for my success.

ROBT. RICHARDSON, Pt. Colborne, Ont.

Mr. Dunn's Carrier

EDITOR BEEKEEPER:

In my article describing platform for Ford car the material for the light rack to go over top of supers is given as 3.3. It should read three-eighths inches by two inches. We have another platform for this car, the frame of which is seven-eighths by four inch stuff and with three-eighths inch bottom. It is simply a flat platform with a rim around the outside extending one inch higher than the bottom of the floor. In width it extends to the outer edge of the fenders, which is just right for three supers end to end across the floor. It extends about two feet three inches beyond the line of the hind axle, leaving room for three supers side by side, or nine supers on the flat. With the slatted cover over top, properly roped down, seventy-two half-storey supers with empty combs or sections carry nicely.

J. F. DUNN, Ridgeway, Ont.

Honey from Spruce Trees

Editor Beekeeper:—In regard to the question about honey from spruce discussed on page 212, I overlooked the fact that bees gather honeydew from the galls made by a scale insect, *Physokermes picea*, on the Norway spruce. Bees were noticed working diligently on these galls on the campus at Guelph in June, 1916. A sample of the honey said by Mr. Balmer to be gathered from spruce which has come to hand, is dark and of a disagreeable flavor, both characteristics of honeydew, which this sample probably contains.

F. W. L. SLADEN,
Apiarist, Ottawa.

Note.—It is from this "honeydew" that the cheaper grades of Hawaiian honeys are made. Mr. E. L. Sechrist of the U. S. Div. of Agriculture, says: "We have definite information that this honeydew is the product of the leaf-hopper which feeds on the cane plants, and while it is like syrup in flavor, yet it can be utilized by bakers, and furnishes the moisture-retaining qualities of true honey, thus coming into competition with our United States baking grades."

Editor.

Bee Disease

European Foul Brood attacks most of the larvae before they are capped over while they lie curled up in the bottom of the cell. The larva turns yellowish or greyish and melts into a pulp which will not rope, or will rope but little, and has a slightly sour odour. A few capped larvae are often affected. Sometimes a fetid odour is present. The dried scale is easily removed. Italian bees will resist this disease, and therefore the best treatment is to introduce Italian queens of a good strain. The shaking treatment should also be carried out in many cases.

In Sacbrood the dead larva with darkened skin lies extended in the cell. Usually the entire larva can be removed from the cell without breaking the skin. On puncturing the skin, the contents are found to be more or less watery. Colonies affected by this disease usually recover and no treatment is necessary. To guard against foul brood, do not buy bees on combs or used bee supplies, unless you are sure they are clean. Do not feed your bees with honey from another apiary. Keep the colonies strong and avoid robbing. If European Foul Brood is in the district, Italianize without delay.—Experimental Farm Note.

The Apple Situation

P. J. Carey, Dominion Fruit Instructor,
Toronto.

The marketing of this year's apple crop can be said to have turned the first corner, that is, the bulk of the best orchards have passed from the hands of the growers to the apple buyers, or apple speculators. The apple men, as in days gone by, are "game," and ready to take a chance.

"Lump" buying has been the general rule so far. The price per barrel, whatever it may be, is kept well in the background. The grower is quite satisfied to take a good thing, and let the next fellow do the speculating.

The fabulous prices realized last season after the removal of the embargo have put "pep" into the buyers, and it remains to be seen how the next season's business will wind up. He would be a bold man indeed who would predict just where the buyers will land, but one thing seems certain, the consumer need not look for cheap apples. However, there will be enough to go around, and even if consumers do have to pay what may look like a high price for a box or barrel of apples, it may turn out to be good buying when compared with what they have to pay for other food commodities.

To show that the business of apple growing is very much alive, we hear of many deals being made for single orchards well into the thousands. One Northumberland County man received for the product of his orchard the handsome sum of \$6,500.00. As usual, the man who is caring for his orchard is getting the dollars.

English Fruit Prospects

Early reports of a bumper crop, indicated early last spring, have been somewhat reduced by prolonged drought, heavy dropping, and infestations of insect pests. Prospects at the beginning of August, from reports compiled by the Gardener's Chronicle, are still favorable and indicate a crop rather better than average, much larger than that of last year, and very little less than that of 1917. Pears are somewhat below an average crop, but a much larger crop than last year. Plums are a smaller crop than 1918.

Mr. J. Forsyth Smith, Canadian Fruit Trade

Commissioner at Liverpool, is in direct touch with the English authorities and with the Dominion Fruit Branch at Ottawa. Canadian exporters may be assured of receiving all available information if they will communicate with the Dominion Fruit Commissioner at Ottawa and have their names placed upon the mailing lists in his office.

Annapolis Valley

Eunice Buchanan, Berwick, N.S.

The latter part of July and most of August were very wet, and onions have fallen before the blight. The gathering of early apples, Crimson Beauty, began on August 10th. The bulk of this early fruit will be used in the Maritime Provinces. Black spot is showing on ordinarily sprayed orchards, but on the whole the winter fruit is clean and of good size. The prospect of good prices in England for apples was somewhat dulled on the announcement that the freight to the English market must be prepaid at the rate of three dollars a barrel.

Wild raspberries, blueberries and blackberries are exceptionally plentiful. During the past season there were shipped from Berwick station 2,594 crates of strawberries. The price ranged between 15c. and 30c. a box.

We are spending August on Cape Breton Island where vegetation is about a month later than in the Annapolis Valley. In spite of the severe winters rhododendrons are flourishing, and a clump of imported heather is in full bloom. Wild raspberries are selling in bulk for a dollar a gallon. Strawberries are in season in August, currants and gooseberries have an abundance of fine fruit. Apples are not much grown, but where there are trees they are doing well.

A bulletin that will be appreciated by many is entitled "Judging Vegetables." It is by A. H. McLennan, B.S.A. vegetable specialist of the Ontario Department of Agriculture. This bulletin is printed on unusually good paper and the numerous cuts it contains appear to good advantage. Standards and points in the judging of various vegetables are given.

ROWANCROFT GARDENS

MEADOWVALE - - - - - ONTARIO.
Special Collection of the Flag Iris for Fall Planting.

Collection No. 1. S. signifies the standards, F. the falls.

1 Rhein Nixie, S. white, F. pinkish purple edged with white .....	.35
1 Mithras, S. yellow, F. violet claret, edged yellow .....	.35
1 Madame Pacquette, claret crimson throughout .....	.25
1 Mrs. Reuthe, white shaded and reticulated soft blue grey .....	.35
1 Queen of May, mauve-pink throughout .....	.20
1 Perfection, S. violet-blue, F. velvety purple black .....	.30

For \$1.50

Collection No. 2.

1 Her Majesty, pink throughout, richer color than the other pink ones.....	.35
1 Wyomissing, very delicate shade of pink .....	.50
1 Princess Victoria Louise, S. primrose and plum, edged cream .....	.35
1 Nibelunger, S. olive yellow, F. deep violet purple, edged cream .....	.35
1 Sappho, S. rich blue, F's. deep blue purple .....	.25
1 Aurea, soft chrome yellow throughout .....	.25

For \$1.75

Collection No. 3. Early Flowering.

1 (Interregna Section), Ingborg, pure white .....	.25
1 (Interregna Section), Walhalla, S. lavender-blue, F. purple .....	.35
1 (Interregna Section), Helge, pale yellow throughout .....	.35
1 Spectabilis, purple throughout .....	.20
1 Major S. blue purple, F. dark violet purple .....	.20

For \$1.00

Collection No. 4. New varieties, a limited number only.

1 Prosper Langier, S. Fawn, flushed rose, F. wine-crimson .....	.75
1 Mrs. Alan Gray, lilac pink throughout .....	.35
1 Mrs. Shirwin Wright, a beautiful yellow, tall .....	.40
1 Lohengrin, pinkish-mauve throughout, fluted edges .....	.50
1 Loreley, S. primrose yellow, F. plum blue .....	.35

For \$2.00

All four collections for \$6.00. These are all good, strong, well-rooted plants. Catalogues on application. If you are interested cut this out, it will not appear again.



Bruce's Regal Flowering Bulbs

FOR FALL PLANTING

Delivery not later than 15th Oct.

Write for our free 28-page illustrated catalogue—
Bulbs
Seeds
Plants
Poultry
Supplies

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

	EACH	DOZ.	100
Crocus, in four colors.....	\$.05	\$.30	\$1.75
Freezias .....	.05	.35	2.25
Lilies, Calla White.....	.25	2.50	....
Lilies, Chinese Sacred.....	.25	2.50	....
Hyacinths, Roman, four colors	.12	1.20	8.50
Hyacinths, Dutch, four colors	.10	1.00	7.00
Narcissus, Single, 6 varieties	.06	.60	4.00
Narcissus, Double, 4 varieties	.06	.60	4.00
Narcissus, Paper White.....	.07	.65	4.50
Scilla Siberica, Blue .....	.05	.45	3.25
Snowdrops, Single, White...	.05	.40	2.75
Tulips, Single Mixed.....	.05	.50	3.50
Tulips, Double Mixed.....	.06	.60	4.00
Tulips, Parrot, Mixed.....	.06	.55	3.50
Tulips, Darwin, Mixed.....	.06	.55	3.50

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Established 1850



FLOWER POTS

Hanging Baskets and Fern Pans

We make the "Standard" Pot, the best Pot in the world—uniform, best of clay, well burned, in every respect superior to all others.

All our pots have rim on shoulder, thus allowing them to be placed together perfectly and preventing breakage in shipping and handling.

Place your Fall Order NOW.

A complete line and large stock of all sizes kept on hand to ensure prompt shipment.

Send for NEW CATALOG and PRICE LIST.

The Foster Pottery Co.

HAMILTON - - - - - ONTARIO
Main Street West.

North Carolina Bred Italian QUEENS — of Dr. C. C. Miller's strain of Three-band Italian Bees. Gentle and good honey gatherers. July 1st. to October 1st.—Untested, \$1.10 each; \$11.00 per doz. Tested, \$1.60 each. Select Tested, \$2.25 each. Safe arrival and satisfaction guaranteed. Capacity six times as many queens as last year.

L. PARKER
R. F. D. No. 2, Benson, N.C.

PRACTICAL QUEEN REARING

Is the title of the new bee book, cloth bound, 110 pages, finely illustrated, which has just been written by Mr. Frank C. Pellett, former State Apiarist of Iowa and well known bee-keeping writer.

For many years there has been a demand for a book which would give in concise form the many different methods of queen rearing, as the Doolittle, Pratt, Alley, Miller, Dines and others with variations as practised by the large queen breeders.

You have this in this new bee book.

Send for your copy now and learn for yourself how to rear queens from your best colonies to advantage. Variations of plans may be of great value also to queen breeders.

Price postpaid, \$1.00, or with the American Bee Journal, one year only, \$1.75.

(Canadian postage 15 cents extra.)

AMERICAN BEE JOURNAL
HAMILTON, ILLINOIS

Grape Growers Organize

GRAPE growers in the Niagara District have been very active this summer preparing for the marketing of this season's grape crop. There has been formed the Niagara District Grape Growers' Association. The membership of this is drawn from all over the district. The association some weeks ago sent a committee to New York state to investigate the grape situation there. This committee reported recently that New York grape growers were asking \$125.00 a ton to start with and because of a light crop expected to increase the price to \$150.00 a ton. The Niagara District growers have been holding for 42½¢ a basket of \$100.00 a ton.

The officers of the new association include J. A. Welstead, St. Catharines, President; J. A. Livingstone, Grimsby, Vice-Pres., and H. K. Clemons, St. Catharines, as Secretary-Treasurer.

The executive committee consists of the following representatives from the local associations: St. Davids—W. W. Armstrong, J. M. Cryslar; Beamsville — James R. Cox, John Hicks; Jordan—W. M. Gayman; Winona—Eeland Lee, Thomas Mahoney; Grimsby—James A. Livingstone.

St. Catharines' weather lately has been cooler with some showers. St. John peaches, which were a very light crop, are about off. A good percentage of them went to the canning and jam factories at 6½ to 7¢ a lb. net. Special interest is centered just now on grapes. The growers have organized a Grape Growers' Association and are looking for \$100 a ton for their grapes, and it is probable a large quantity will be sent to the United States.—F. A. J. Sheppard.

Burlington.—Early and fall apples, light; Spy and Baldwin, a fair crop; Bartlett and Keiffer pears, fair to good; Lombard, Burbank & Bradshaw plums, light to fair. There has been a heavy crop of apples and plums. Grapes, fair to good outlook. A strong demand for fruit.—A. W. Peart.

Stock grain and potatoes are good crops; let us grow all we can; but do not lose sight of the fact that the future of the Annapolis Valley lies in her orchards. The orchard has made her famous, and with the orchard the strawberry plantation seems to fit in very well.—Manning Ellis, Port Williams, N.S.

Douglas Gardens Bargain of Paeony Roots

A lot of large clumps of Paeonies and Iris will be offered for sale this fall. Roots that will give from 25 to 50 blooms next spring. Send your order early.

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

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

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

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

ERICK ERICKSON

Oakville, Ontario.

Pack Your Hives WITH GRANULATED CORK

Granulated cork is one of the best non-conductors of heat or cold, giving practically 100% insulation. It thus keeps a constant temperature in the hives.

Granulated cork is cork from which volatile oils and all moisture has been removed. It is then baked and ground fine.

Mr. J. F. Dunn, Ridgeway, Ontario, in The Beekeeper, November, 1918, states that he has used granulated cork with the greatest success for a number of years.

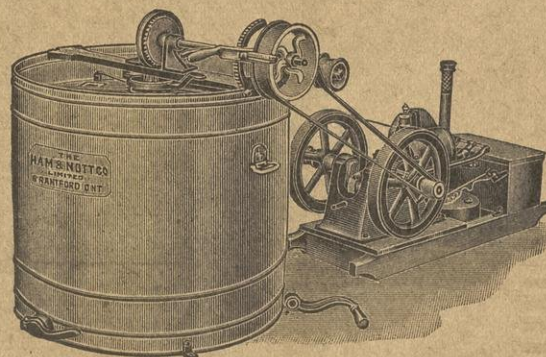
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Armstrong Cork and Insulation Co.
Limited

MONTREAL
902 McGill St.

TORONTO
11 Church St.

Power Extractors



Cut gears or friction drive, with or without engine.

If you are considering a power outfit this season it will pay you to write to us at once.

The Ham & Nott Company, Limited
MANUFACTURERS OF BEE-KEEPERS' SUPPLIES
Brantford, Ontario

British Columbia

That British Columbia fruit has good keeping qualities was found by George Bell, M.P.P., of Victoria, who was in New Zealand when a shipment of 14,000 boxes of apples was unloaded during the latter part of January. Owing to the Flu epidemic this shipment had not been landed as first intended, but had been carried to Australia and returned to New Zealand. In spite of this long delay the fruit was in fine condition.

A new organization has been launched in the province which will be known as the United Seed Growers, Limited. The headquarters of the organization will be at Pen-

tiction. It will deal largely with commercial matters. The following provisional officers have been elected: President, L. E. Taylor, Kelowna; Vice-President, W. C. Kelly, Summerland; Directors, H. M. Eddie, Sardis; A. H. Fenwick, Kamloops; Messrs. Himler and Gibbons, Penticton; P. A. Boving, Vancouver, and J. W. Martindale, Sidney.

According to J. A. Campbell, assistant director of horticulture of Wellington, N.Z., who has been visiting the Pacific Coast recently, New Zealand apples can be marketed on the Pacific Coast in successful competition with home-grown storage stock. The season in New Zealand is opposite to that on the Pacific Coast, making it possible to market the surplus fresh fruits of New Zealand in competition with the home-grown storage stock. It is understood, however, that it is the intention of the New Zealand growers to devote their attention first to developing the markets in South America and South Africa. New Zealand has about 50,000 acres of orchard and grows much the same varieties as are produced in British Columbia.

Such success has attended the operations of the Provincial Experimental Farm at Summerland, the fruit growers in the Penticton district have decided to ask the British Columbia government to establish a similar enterprise at Penticton, where the government recently secured 22,000 acres for a Soldiers' Tract.

The Okanagan United Growers, Limited, is an aggressive organization that because of its proficient methods and progressive management deserves the success it is achieving. Besides a strong executive staff located in the company's elaborate and up-to-date new home in Vernon, B.C., the company maintains sales managers at Regina, Calgary, and at other points. In a recent

I. F. MILLER'S STRAIN Italian Queen Bees—For Sale

Northern bred, for business from my best SUPERIOR BREEDERS; gentle, roll honey in, hardy, winter well, not inclined to swarm, leather color.

Queens a specialty, twenty-five years breeding experience. Safe arrival and satisfaction guaranteed.

Unt., \$1.00; 6, \$5.50; 12, \$10.00.

Sel. Unt., \$1.25; 6, \$6.75; 12, \$12.00.

I. F. MILLER, R.F.D. No. 2, BROOKVILLE, PA.

MOTT'S Northern Bred Italian Queens

have proved for the last 12 years to the Canadian friends to be the best of E.F.B. resisters. Hardy, hustlers and gentle.

Sel. tested, \$2.00; Unt., \$1.00; 6, \$5.50.

12, \$10.00.

Plans "How to Introduce Queens and Increase," 25c. Lists free.

E. E. MOTT Glenwood, Mich.

Honey

We are in the Market
to buy your Honey
in large or small lots.
Any quantity handled.
Write us for particulars.

WAGSTAFFE, Limited
HAMILTON - Ontario

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BEEKEEPERS

What about Honey Containers, Tins and Glass? Write us for prices.
High grade supplies of every description.
Catalogue on request.

The Canadian Bee Supply and Honey Co., Ltd.
73 JARVIS ST. - TORONTO, ONT.
Factory—Stouffville, Ont.

Three Banded and Golden Italian Queens



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

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

Send for Price List. Cash with order.

W. R. STIRLING
Queen Breeder RIDGETOWN, ONT.

MOORE'S STRAIN of ITALIANS

Noted for honey gathering, hardiness and gentleness.

Untested Queens \$1.50; 6, \$8.00; 12, \$15.00. Select untested, \$2.00; 6, 10.00; 12, \$19.00.

Safe arrival and satisfaction guaranteed. Circular free.

I intended to run my apiaries for honey this year, but so many of my customers say that they must have "Moore" queens, I am devoting part of my home apiary to queen rearing.

J. P. MOORE
Morgan - - - - - Ky.



"DAISY" Apple Sorting Table

The "Daisy" Apple Sorting Table is one of the most useful articles in our outfits for fruit growers. It folds into small compass and can be placed anywhere in the orchard. It is light,

but is strongly built to withstand rough usage. The table frame is of oak and all metal parts are of first-class malleable. The cover is of No. 10 canvas.

"Daisy" Apple Press

The "Daisy" Apple Press is one of the best known articles of this line; is indispensable to every packer, and is used by the leading apple packers in Canada, United States and England. It has a new improved foot which permits catching the lapped hoops.

Fruit growers' supplies carried—Ladders, Baskets, Felt Pads, Racks, etc. Write for prices. Special quotations to associations.

J. J. ROBLIN & SON
Brighton - Ontario



**SMALL FRUITS**

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

WM. FLEMING
NURSERYMAN
Owen Sound - Ontario

SKINNER SYSTEM OF IRRIGATION

Control complete. Prevents drought losses. Reduces labor bills. Increases profit. Special Portable Line for \$21.50. Send for new Bulletin.

THE SKINNER IRRIGATION CO.
217 Water Street - Troy, Ohio.

Northern Ontario

A vast new land of promise and freedom now open for settlement in 160 acre blocks to returned soldiers and sailors free; to others 18 years and over 50 cents per acre.

Thousands of farmers are responding to the call. Here right at the door of Southern Ontario a home awaits you.

For information as to terms, regulations and railway rates to settlers write

H. A. MACDONELL,
Director of Colonization,
Parliament Buildings, TORONTO, ONTARIO

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

issue of The Winnipeg and Western Grocer appeared a three-page article about the company with illustrations of its chief offices and of its big new warehouse at Vernon. The company has recently published a book containing their annual report and growers' manual, which contains upwards of 100 pages of valuable data, together with a series of useful articles by various men experienced in matters relating to fruits and vegetables. This year the United Growers are stenciling the boxes containing their "O.K." apples as well as other varieties of fruit, including cherries, peaches and plums.

The coast market's commissioner, R. C. Abbot, at Vancouver, reports that through thorough organization on the part of the fruit growers the raspberry crop is now being marketed with comparatively little loss, the shipments being regulated according to the demands of the market. At one time losses were heavy due to the markets being allowed to become flooded.

Machine-Sized Apples

Due to the demand of uniform apples in commercial markets, apple grading or sizing machines have been found to be a profitable investment, according to tests carried on by the Ohio Experiment Station. The graders or sizing machines are placed in commercial orchards and as soon as the apples are picked they are assorted into respective grades before they are barreled.

Machine-sized fruit from orchards operated by the Ohio Experiment Station sold to buyers for about 30 cents a barrel more than was paid in the same section for hand-sorted fruit. In addition, another grade of apples was secured for the making of apple butter which formerly would have been sold as cider apples at a low

price if the grading process had not been adopted. The capacity of the ordinary grading machine is about 150 barrels per day.

Fruit and vegetables sell as much on appearances as on quality. Good looking, well-packed fruit of inferior grade will always outsell fruit of better quality, but poorly displayed. As a rule the store that displays vegetables and fruits best, sells the most. Of course this means they must have good stuff to display.

Wind Breaks Not Favored

P. W. Hodgetts, B.S.A., Director Fruit Branch, Toronto.

Wind-breaks would be an asset in locations where an orchard is much exposed to high winds, but under conditions as usually found in Ontario, we would hardly encourage their planting. Competent men estimate that wind-breaks should be put from 50 to 200 feet away from the nearest fruit trees which, of course, would be out of the question in the special fruit districts owing to the high price of land.

We find that where evergreen wind-breaks are planted around apple orchards both insect and fungus disease are more difficult to control, and while the answer to this might be that thorough spraying will control all disease no matter under what conditions, we would prefer to have the air and sunlight admitted freely to all parts of the orchard.

Where there are large blocks of land being set out to fruit a row of evergreen or deciduous trees might be advantageously planted across the end of the farm to protect from the prevalent wind, but for the

Service—Our Aim

There is only one way we have learned from many years experience to hold customers. That is to always secure the most satisfactory returns possible. We will do this on your shipments of

*Grapes, Plums,
Quinces, Pears,
Peaches, Tomatoes,*

this month, if you will send your shipments to us.

The efficient selling organization which we have built up enables us to guarantee to secure you the highest market prices prevailing. Won't you give us a chance? Shipping stamps will be sent on request.

WHITE & COMPANY
Front and Church Sts., Toronto, Ont.

WHOLESALE FRUIT IMPORTERS
AND COMMISSION MERCHANTS



Sow PERENNIALS Now

For Next Year's Bloom

Perennials are now among our most popular flowers. They save labor and yearly planting, give better and earlier bloom and in greater variety than annuals. Perennial flowers are best for table decoration, as they keep fresh longer. In order to

secure bloom next year it is necessary to sow them now. The following is a list of the most popular perennials we can recommend.

VARIETIES

Aquilegia Delphinium Canterbury Bell Forget-Me-Not
Coreopsis Gaillardia Digitalis Hollyhocks
Pansy Sweet William

10c a pkt. or 10 pkts. for 75c.

Send your order now, enclosing remittance by Postal or Money Order and we will promptly ship the seeds.

GEO. KEITH & SONS
124 King St. East - Toronto, Ont.

tree fruits we would not consider it good policy to set out an evergreen wind-break around small blocks.

We are speaking, of course, for the commercial fruit districts of Ontario. For those sections where there is a question as to the hardiness of trees and small fruits, the wind-breaks are apparently proving of great value for winter protection. This is something our Department has had very little experience with, but with the establishing of an Experimental Station at Fort William, we will carry out experiments that will be of value in future years.

Yield From Fourteen Acres

The following figures covering the receipts and expenditures of 14 acres of fruit land in British Columbia last year in full bearing were recently published in the Toronto Globe, having been sent from British Columbia by its staff correspondent, Peter McArthur, the well known journalist. The returns from this orchard were \$10,544.27. The sales included 5,938 boxes of apples, 80 hogs, \$700 worth of hay and \$240 worth of soft fruits.

The carefully worked out cost of producing each box of apples is as follows:

Interest at 6 per cent on land,	
\$1,000 acre	\$.107
Interest at 6 per cent on equipment .....	.008
Taxes, irrigation .....	.013
Depreciation .....	.016
Ladders and picking bags ....	.0025
Superintendency at \$585 per year .....	.1000
Pruning and hauling brush ...	.04
Spraying three times .....	.0233
Cultivating, ditches .....	.005
Irrigating .....	.0103

Thinning .....	.0116
Total cost of growing one box apples	\$.3367

Picking .....	.1046
Hauling to packing house ....	.024
Sorting .....	.042
Packing .....	.08
Nailing .....	.0207
Hauling 6 miles .....	.04
Boxes delivered at packing house .....	.155
Nails and making boxes .....	.015
Wraps and lining .....	.0501

Harvest, packing and hauling to railroad	\$.5314
--	----------

Total cost per box delivered to railroad	\$.8681
--	----------

PEONIES

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

A. W. GRAHAM.

St. Thomas

Ontario.

TREES & SHRUBS
BROWN BROTHERS CO.
NURSERYMEN LIMITED
BROWNS NURSERIES, ONT.

ONTARIO LADIES' COLLEGE

WHITBY - ONTARIO

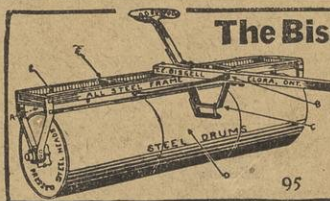
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 Music: Instrumental,
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Civic and Parliamentary
 Studies, Gymnasium
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The Bissell Steel Roller has a rigid steel frame—no wood whatever.

Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. N for free catalogue.

T. E. BISSELL CO., LTD., Elora, Ont.

"Bissell Implements will be on exhibit at Toronto, London and Ottawa fairs."

FIRSTBROOK BROS.

LIMITED

Boxes

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Shooks

SINCE 1867

Fruit Boxes

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Barchard & Co.

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Fruit Boxes

Made Up

or

In Shooks

• • •

135 Duke Street

Toronto

Ontario

The Fruit & Produce Market

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

H. J. ASH

44-46 Church St. - Toronto, Ont.

CONSIGNMENTS OF FRUIT AND VEGETABLES SOLICITED

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

DAWSON-ELLIOTT CO.

32 West Market St., Toronto, Ont.
Wholesale Fruit and Produce Consignments Solicited.
Canada Food Board License No. 3-045,
Class II., Div. B., and 3-046, Class II.,
Div. C.

PETERS, DUNCAN Limited

88 Front St E., Toronto, Ont.

See advertisement on page 218.

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

APPLE BARRELS

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

Sarnia Barrel Works

SARNIA : : : ONTARIO.

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

POULTRY YARD

Selecting the Layers

(By M. A. Gull.)

SINCE a good laying hen was never so profitable nor a poor layer so expensive, it behooves every farmer to give due consideration to the proper selection of his layers for next season. Not every farm is able to use a trap-nest, and while this is the only way by which individual production can be determined, nevertheless there are other ways of selecting the good from the poor layers.

Our present state of poultry breeding does not warrant keeping hens over two years old for laying purposes, although the time may come when hens will be profitable producers for four or five years. Owing to the fact that pullets are so much better layers than yearlings the bulk of the farm flock should consist of pullets, a few yearlings being kept as breeders.

The growing stock should be looked upon as the chief source of supply of winter eggs. Observe the chickens from time to time and note particularly those which mature early. Pullets should be in good laying condition by the middle of October but they only commence to lay when practically mature so that it is necessary to keep them growing rapidly. Usually those pullets which feather most rapidly make the best layers. When fall approaches select the ones that are in good health, with bright red combs and with good width between the pelvic bones, for as laying commences these bones get wider apart. Above all, select healthy vigorous birds.

A Few Donts

Don't keep the loafers, they make better soup than anything else.

Don't feed poultry at irregular times.

Don't blame the incubator for poor hatches when the breeding stock lacks in vitality.

Don't waste good eating eggs in an incubator if you are not reasonably sure they are fertile.

Don't say your chicks died of white diarrhoea when it was your carelessness that killed them.

Poultry Pointers

By J. E. Bergey.

REMEMBER that sour milk or buttermilk will make excellent feed for both growing chickens or laying hens. Try some and see the difference it makes.

Are your chickens dumpish and not doing well? If so, look out for mites. Remember that mites live on the roosts, in cracks and joints of the coop or other hiding places during the day. By soaking these places with a liquid lice killer or a solution of four parts coal oil and one part carbolic about once every two weeks, no trouble is likely to be had with them. The same treatment is good in the hen house.

Be sure to have all the infertile eggs put down that you need for the winter. You will then be in a position to sell the fresh eggs you get during the late fall and winter for a high price.

All the clovers are extra well supplied with protein, which adds to their value for poultry feeding. While any grass may be cut and dried for Winter use for hens, the clovers are best because of this.

Fall Suggestions

DAMPNESS is the greatest cause of disease among poultry. Poultry suffer very little from cold, but once put them in damp quarters and roup will start to decimate the flock. For this reason we favor the open front poultry house. We have had experience with the warm, tight, glass front houses, and we were never able to keep the houses dry or the birds healthy. The houses we now use are 20 feet square of the shanty roof type, and in the front is an open space, 3 x 6 feet, covered with wire netting. Over this opening we drop a burlap curtain on the coldest winter nights, or when the storm is beating in from the southeast. At all other times there is nothing but wire netting between the pullets and the weather. As we have single comb white Leghorns, the combs freeze more or less every winter, but we have never noticed that this freezing had any appreciable effect, either on the egg yield or the comfort of the birds.

Items of Interest

Walnut growers in California predict that within a short time no more whole nuts will be shipped out of the state and that a large sum in packing, freight charges and handling will thus be saved. The reason for their belief is the perfection of a nut meat container which keeps the meats fresh and sweet for an indefinite period. Experiments with this container have been going on for two years and the State Walnut Growers' Association has placed orders for large quantities of the packages.

FEED THE LAND

By using the best Manure and get

GOOD CROPS

For Nurseries, Fruit Growers and Gardeners

Sure Growth Compost

(A Composition of all Natural Manures)

Makes poor land fertile and keeps fertile land most productive

Supplied by

S. W. Marchment

133 Victoria St., TORONTO

Telephones: Main 2841. Residence, Park 951

Say you saw this ad. in THE CANADIAN HORTICULTURIST

Mr. Hilborn's Success

Ontario fruit growers who are acquainted with Mr. J. L. Hilborn, who some years ago was a successful fruit and vegetable grower at Leamington, Ontario, and a director of the Ontario Fruit Growers' Association, will be interested to know that he continues to meet with unusual success on his fruit and vegetable farm, situated on what is known as Jones' Flat, which lies about 300 feet above the level of Okanagan Lake, B.C. Mr. Hilborn has been conducting quite a little of his work in connection with the Department of Agriculture.

From nine acres of fruit and vegetables, Mr. Hilborn sold in 1917 products worth \$7,195.00. His expenses amounted to \$3,237.85. This left him a net balance of \$4,957.25. One plot of one-eighth of an acre planted with tomatoes gave a gross return of \$161.00. The net profit was \$87.00 or at the rate of \$700.00 an acre. Last year, Mr. Hilborn sold \$3,700.00 worth of cucumbers from less than an acre and a half. He has met with distinct success in the sale of cantaloups on the prairie markets.

The prairie fruit jobbers have formed an association consisting of all the principal wholesale fruit dealers in the prairie provinces. The president is Mr. S. S. Savage, of Plunkett & Savage, Calgary.

GET MORE EGGS; SAVE FEED

Eggs are certain to be higher priced this winter than ever. Those who know how and what to feed to get the most eggs all fall, winter and spring, will reap big profits. Improper feeding methods will result in fewer eggs, wasted feed—loss and disappointment. Prof. T. E. Quisenberry, Director-in-Chief of the great American Egg Laying Contest, and officially recognized as one of the world's greatest poultry authorities, has just completed a 16-page bulletin on "How to Get More Eggs and Save Feed." He will mail this bulletin to readers of The Canadian Horticulturist who will write him without delay. Send no money. Over a thousand hens under Quisenberry's direction laid from 200 to 304 eggs each per year. He just finished making a profit of \$6.15 per hen in nine months on commercial eggs from one large flock. Write him to-day for the free bulletin, addressing care of American Poultry School, Box 671, Kansas City, Mo. (Advertisement.)



Cromwell
Pattern

Home-Making Time is Silverware Time

Whenever silverplate is chosen for your personal use, or for gifts, let it be the genuine 1847 Rogers Bros. brand, renowned for attractiveness and durability for over seventy years. There can be no question of its giving life-long satisfaction.

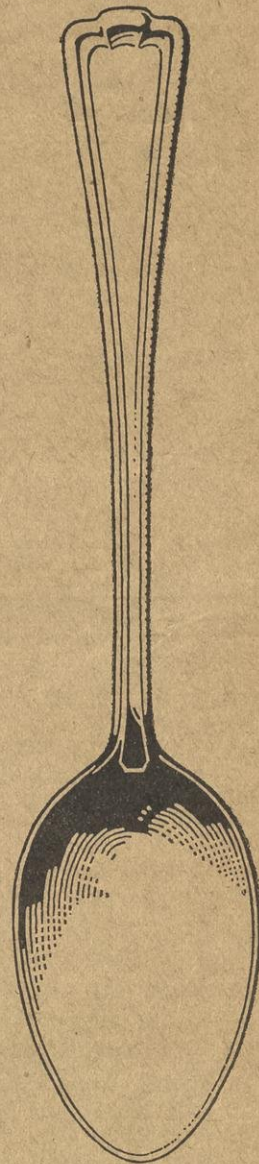
Do not be confused by goods with a similar name. Look for the full trademark "1847 Rogers Bros.", which is your guarantee of the highest quality.

Ask your dealer to show you the various attractive patterns.

1847 ROGERS BROS.
SILVERWARE

The Family Plate for Seventy Years
MERIDEN BRITANNIA CO., Ltd.
Hamilton, Ontario

*Made in Canada by Canadians and sold by leading
Canadian dealers throughout the Dominion*



BARRELS

Standard Size

Government Specifications

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

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

THE YAMASKA COOPERAGE CO.

Abbotsford, Que.

Draw on Your Customers



21

through the Merchants Bank. With Branches in all parts of Canada, and correspondents abroad, this Bank is in a position to present Drafts promptly, have them accepted, and collect payment, with the least possible trouble and cost to you.

The Manager will be glad to take up this matter with you.

THE MERCHANTS BANK

Head Office: Montreal. **OF CANADA** Established 1864.

With its 119 Branches in Ontario, 37 Branches in Quebec, 1 Branch in New Brunswick, 2 Branches in Nova Scotia, 27 Branches in Manitoba, 41 Branches in Saskatchewan, 69 Branches in Alberta and 8 Branches in British Columbia serves Rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

To Fruit Growers and Farmers—

The Dominion Bank is prepared to give special attention to the accounts of fruit growers and farmers.

If you need money to improve your orchard or farm, consult the local manager of any of the following branches:

NIAGARA FALLS	-	-	J. B. A. O'NEILL, Manager
ST. CATHARINES	-	-	B. B. MANNING, Manager
WELLAND	-	-	W. D. S. FRASER, Manager

THE DOMINION BANK

HEAD OFFICE TORONTO

BISSELL Double Action Harrows will thoroughly cultivate



and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. N for free catalogue. 98
T. E. BISSELL CO., LTD., Elora, Ont.

"Bissell Implements will be on exhibit at Toronto, London and Ottawa fairs."

SEEDS

IS "anything good enough for the Colonies?"
YES, one thing and one thing only—
THE BEST

An Ontario Seedsman says:

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

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

VEGETABLES

FLOWERS

FARM ROOTS

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

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

Blueberry Plants Wanted

For several years past Mr. F. V. Coville, of the United States Department of Agriculture, and Miss Elizabeth C. White, of New Lisbon, New Jersey, have been cultivating blueberries and working to produce new and better varieties. To get new varieties they find the very best wild bushes and then cross-breed these wild plants. The seeds resulting from the cross breeding grow into all sorts of new varieties, just as seedling apples are seldom like the tree they come from. Many of these new varieties of blueberries are poorer than their parents, but about one in a thousand turns out to be much better than either parent and makes a promising new variety.

Mr. Coville's most surprising discovery was that blueberries cannot live in a well-balanced, fertile soil. They require a sour or acid soil and are actually killed by the application of fertilizer which would be the best possible food for ordinary plants. Some years ago a wild blueberry plant was found in Massachusetts with berries more than three-quarters of an inch in diameter, but it was killed by people who did not understand its proper care by being fertilized.

Since 1911 Miss White has been associated with Mr. Coville in these investigations, he in the Government greenhouses at Washington working out the scientific problems and originating new varieties by cross breeding, and she at New Lisbon, New Jersey, raising these new varieties and the best wild plants that could be found. Mr. Coville and Miss White are now trying to find a number of wild plants to use for this work. They already have a few plants that have berries three-quarters of an inch through, and hope to produce hybrid berries an inch in diameter. They want more unusually fine wild plants, and will pay \$50.00 for especially fine plants with very large berries.

But it is not only the size of the berry that counts. They are willing to pay smaller prices for plants that have many berries of slightly smaller size if these berries are of unusually fine flavor. Some bushes bear much more heavily than others. On some bushes the berries stick so tight that when they are picked a piece of the stem pulls off with the berries, or the berry is torn and the juice leaks out. On other plants the berries come off the stems just right. Berries from some bushes spoil soon after they are picked, while others will keep for a week. Some berries are black and others of a beautiful light blue color. There are doubtless thousands of bushes in the country with berries three-quarters of an inch or more in diameter, and many other bushes with berries just a little smaller but of unusually fine quality, but it is only by having people on the watch for them that these fine bushes can be discovered.

Fruit growers who have wondered if the high prices of small fruits are likely to continue will be interested in a view expressed recently by Prof. W. J. Green, of the Ohio Experimental Station, who holds that high prices may be expected in the future because of the increasingly large quantities of small fruits that are now being used for ice cream concoctions, as well as because of the decreasing acreage. Many farmers who used to produce and sell considerable quantities of small fruits do not find time to do so under conditions prevailing to-day and have given up their production except for their home use. These conditions have led to the demand that exists to-day and which seems likely to continue.

Winona Fruit Growers' Association

Secretary, J. R. Hastings, Winona, Ont.

FRUIT growing is an almost exclusive branch of agriculture in this district and co-operation in marketing has to do almost entirely with this industry. When I first got in touch with this section about thirteen years ago, there was no such thing as co-operation either in marketing or in any other branch of the industry. I was operating a fifty-acre orchard and the most discouraging phase of my experience came by reason of the fact that we growers had practically nothing to say as to what prices we should receive for our produce, the shipping business was almost exclusively in the hands of local dealers who, I dare say, were in most instances paying the growers all the market, under their method of handling, would warrant.

In 1908 a few of our growers decided to get together to do their own marketing and to co-operate along other lines affecting their business, an organization was formed, and at the end of over ten years' experience, we can point to a thoroughly satisfied membership and a record of unmistakable success.

(1) Through co-operative handling and marketing this organization has been getting the best prices the market would pay. Its business has been conducted at a minimum expense and it has—beyond all question—brought to its members better average returns than the unorganized growers have been receiving.

(2) It has absolutely relieved its members of the difficult task of marketing, for which few are qualified, and left them free to de-

vote their attention to the production end and the putting up of a more attractive pack.

(3) By organized and co-operative effort it has not only raised the standard of pack of its own members but has, I am told, had a marked influence in creating a better standard for this district and beyond.

(4) Its credit is good and by purchasing supplies in a wholesale way its members get the benefit of lower prices and co-operative effort and management give prompt and smooth service to its members in all matters affecting their business operations.

We have other organizations in the Niagara Peninsula which I believe have been successful and I feel that before many years pass the needs of the fruit industry will force into existence one co-operative concern which will handle the fruit industry of the whole peninsula. I know of no reason why this cannot be done and with advantage to both producer and consumer.

I have in mind some alleged co-operatives that failed. Their failure was inevitable. Some lines of business will stand up to mismanagement for a period but lack of efficient handling will bring speedy failure to a fruit growers' organization.

Vineland Growers' Co-operative Limited

W. Gayman, Manager.

WE are a co-operative company in name only. In reality we are a joint stock company but, instead of having twenty-seven outsiders for our stockholders, we have twenty-seven farmers and fruit growers. There is therefore an incentive for our members to trade with our company. Take feed for an example; quite a number

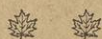
of our growers think their land too expensive to grow grain and feed with the result that they are large buyers of this commodity. Last year we sold \$45,000 worth of feed to our members cheaper than they could have bought it at any other large centre, and we profited some \$3,000 on the transaction. This profit went back to the farmer-shareholders. The same could be said of other supplies we handle, such as coal, baskets, crates, binder twine, spray material, and fertilizers, the profit varying in proportion to the amount of business done.

We do not look upon the money side altogether. During the past two years our community has needed a grist mill, so last fall our company installed one, not as a moneymaker for the company, but as a convenience to the community. The result of all these things combined is that these twenty-seven men make farming their business rather than their occupation and finally they are contented farmers. In every case, too, their sons aspire to the high calling of a farmer.

In selling our produce we get together possibly twelve or more times each year. This is one of the strongest influences of co-operation. We discuss common interests. For example, one of our growers during the year 1915 had a fairly good crop of peaches. In getting together these fellows discussed their methods of trimming. They were quite opposite. Having the Vineland Experiment Station near us we asked Mr. Clement, the director, at that time, to hold a pruning demonstration in the experimental orchard. This was done. It was well attended and good results ensued, so much so that a great many of our men today are trimming the very opposite to what they formerly did. profitable discussions similar to the above take place regarding fertilizers, cover crops,

Apple Box Shooks

ENQUIRIES
SOLICITED



Pembroke Shook
Mills, Limited

Pembroke - - Ontario

Mc DOUGALL'S KATAKILLA

NON-POISONOUS
THE PERFECT
INSECTICIDE

for
FRUIT, FLOWERS
AND VEGETABLES.



MANUFACTURERS: McDOUGALL BROTHERS, LTD.;
66/68 PORT STREET, MANCHESTER, ENGLAND.

and other subjects of interest to the growers.

Then there is the financial side of the selling of the product. Our members bring all of their fruit to us to sell. We are continually in touch with all of the markets and we also keep posted in the outlook in neighbouring sections. We may not always get the very highest price for all of our goods, but we generally do, and on an average we do get a profitable growing price. At the end of the year again any surplus goes back to the farmer-shareholders and in our case we have always had a very nice surplus.

Sarnia Vegetable Growers' Association

By Henry Broughton, Manager, Sarnia.

WE find that The Sarnia Independent Vegetable Growers' Association induces the growers to feed and cultivate their lands by more intensive methods, thus securing larger crops and more satisfactory returns. These crops are marketed more satisfactorily and at greater profit to the producer, because through co-operation larger and more numerous markets are available. These markets are made possible to small or average producers owing to the fact that it is possible for these growers to ship in large quantities by co-operative handling.

No one or two producers could completely load a car but the association is able through its many members to ship in car loads and supply markets at great distances. Through co-operation we are able to market our produce more cheaply because overhead expenses are eliminated through the reduction of middlemen handling our goods. We em-

ploy a salesman who is allowed a commission of from 5 to 10 per cent on the selling price of all produce marketed by the association. This commission, which provides adequate remuneration for the salesman, is much less than would be exacted by local buyers in order to clear their expenses and secure the profits they require.

Our land values have increased 50% on account of co-operative marketing because we are able to secure much higher returns from our land. These higher returns are brought about by the extra time the grower puts on his land which he would otherwise have to spend in marketing in a small way. Also a gain is made in the purchasing of fertilizers and other necessities used in quantity, at wholesale rates, and in avoiding all waste of marketable produce. Co-operative selling tends toward more uniform quality of produce and uniform packages for shipment. This uniformity in appearance and quality advertises our produce wherever it is marketed and thus our community gains in reputation.

Use of Rubber Stamps

J. A. Grant, B. C. Markets Commissioner,
Calgary, Alberta.

Inquiries have been made at this office about the size of letters that should be used in marking grade, name and variety on berry and soft fruit crates. We notice boxes and crates of fruit arriving from Washington, Oregon and California and the sizes of their letters run about half inch or from three-eighths to three-quarter inch. The amended Fruit Markets Act calls for writing at least three-quarter inch. This size for barrels or large crates if written by hand or even stamped would seem reasonable, but a

three-quarter inch rubber stamp for berry or tomato crates is unreasonable and impractical. We would suggest half inch letters for name of variety and grade, and if three-quarter is used it should be for name of association, place or person. We do not anticipate any objection if this advice is followed when applied to fruit crates. The size of stamp required by the Act for open packages is quarter of an inch high.

Price Setting

J. A. Grant, B. C. Markets Commissioner,
Calgary, Alberta.

It is very noticeable on prairie markets that British Columbia producers are coming together to get the cost of production for their wares. The individual consignor is becoming scarce, and uniform pack, and price is the vogue. We meet a number of growers who have their private customers whom they supply at organization prices. These men pride themselves on their private trade. How would it be for them if all were as selfish?

We should join the local union, and then work for it. There is a difference between being a member and a worker. It is the worker that makes for success. The outsider waits for the power; he is no part of it to force the issues, never thinking that success or failure in his business depends on his co-operation. These outsiders are all ethereal co-operators, but they never get their feet on the ground.

Remember that union puts power in the work and its object is to right a wrong which has become insufferable and driven many unsuspecting but hard-working men away from the land.

STANDARD APPLE BARREL STOCK

Government Specifications

*Staves, Hoops,
Heading, Head Liners,
Coopers' Nails*

We can give prompt shipment of dry stock

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



THE SUTHERLAND-INNES CO., Limited
CHATHAM - ONTARIO

Bulletins and Reports

The Division of Horticulture of the Central Experimental Farm, Ottawa, issues a vast amount of valuable, practical information relating to horticulture. Recently it has distributed a useful bulletin, No. 92, entitled "The Strawberry and its Cultivation in Canada," which contains sections on insects affecting the strawberry, by the Entomological Branch, and information concerning common strawberry diseases by W. A. McCubbin, who until recently was in charge of the Field Laboratory of Plant Pathology at St. Catharines. Circular No. 17, also by W. T. Macoun, is entitled "Home Grown Seed of Annual Vegetables."

The New Jersey Agricultural Experiment Station is distributing Bulletin 326 entitled "Pruning Experiments with Peaches," which gives the results of the first two seasons' work. Peach growers will find it interesting. A second bulletin, No. 332, contains the results of Studies on the Eggs of important Apple Plant Lice. Circular 107, by the same station, is entitled Vegetable Plant Lice." As information on the plant lice affecting vegetable crops is limited, this bulletin should prove of value.

Black Spot on Onion Sets is the title of Bulletin No. 230, being distributed by the University of Illinois Experiment Station at Urbana. The same station is distributing Bulletin 217 entitled "An Apple Canker Due to Cytospora."

A small popular edition of Bulletin No. 451 dealing with Leaf-hoppers Injurious to Apple Trees is being distributed by the New York Experimental Station.

A very useful report on the treatment of the surroundings of a small home has been prepared by the Ontario Housing Committee. It is well illustrated and contains useful diagrams for the guidance of those planning to plant out home or community gardens. It may be obtained from The Ontario Department of Agriculture.

The Civil Service Commission announces that J. R. Hastings, of Winona, Ont., is the successful candidate for the position of fruit inspector for the Western Ontario fruit district.

Lubrication Very Important

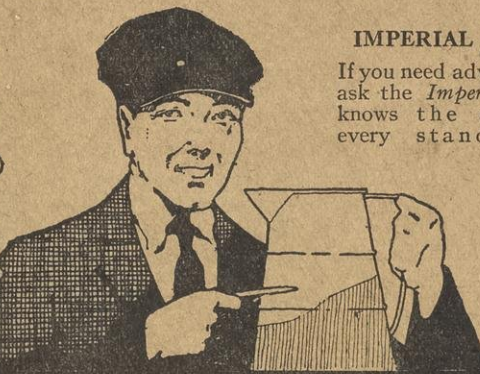
Are you giving your Automobile, Stationary Engine, Tractor and other farm machines the proper lubrication attention? All of these must be correctly lubricated if they are to give you the kind and length of service that they should give.

Imperial Farm Lubricants are well known to Canadian farmers. If you are using an

Imperial Oil brand, you cannot find a better lubricant—but it is possible that the way you use Imperial Lubricants can be improved. Note recommendations below. We have the right lubricant for each purpose and it is only by using the right one that results may be secured.

HANDY SIZES

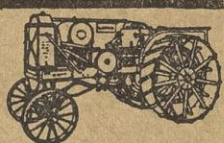
Imperial Lubricants are supplied in one half, one and four gallon sealed cans; half barrels and barrels. There is a stock of Imperial Lubricants conveniently near you.



IMPERIAL OIL SERVICE

If you need advice on lubrication ask the *Imperial Oil man*. He knows the subject from every standpoint—knows the right oil for each farm machine. Exceptionally difficult problems will be referred to Imperial Engineers, without charge.

A Correct Lubricant for every Farm Machine



For Gasoline Engines,
Tractor, Auto &
Stationary

**POLARINE OIL
STANDARD GAS
ENGINE OIL**

For Kerosene Engines
Tractor or Stationary
**POLARINE OIL
HEAVY**

**POLARINE OIL A
IMPERIAL KERO-
SENE TRACTOR OIL
IMPERIAL KERO-
SENE TRACTOR
OIL EXTRA HEAVY**
(Recommended by
many tractor manu-
facturers)



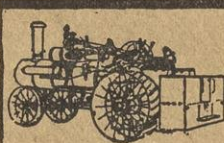
For Open Bearings of
Farm Machinery

**PRAIRIE
HARVESTER OIL**

—very heavy body,
resists cold, won't
thin out with
moisture

**ELDORADO
CASTOR OIL**

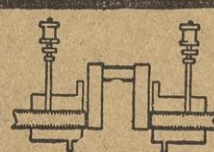
—a thick oil for worn
and loose bearings



For Steam Cylinder
Lubrication,
whether Tractor or
Stationary Type.

**CAPITOL
CYLINDER OIL**

—the standard pro-
duct for steam
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lubrication



**THRESHER
HARD OIL**

For Grease Cup
Lubrication of
Bearings, a clean
solidified oil high
melting point.

IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication
Branches in all Cities

FOR SALE AND WANT ADS

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

BEES

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

HARDY ITALIAN QUEENS, one \$1.00; ten, \$8. W. G. Lauver, Middletown, Pa., Route 3.

BEES FOR SALE—Fifty colonies in nine frame hives, Hoffman, Langstroth frames. Write for prices, etc. J. Raymond Ball & Sons, Knowlton, Que.

SWARTS GOLDEN QUEENS produce Golden bees of the highest qualities. Satisfaction guaranteed. Mated, \$1.00; 6 for \$5.00. Tested, \$2.00. D. L. Swarts, Lancaster, O., Rte 2.

ITALIAN QUEENS.—Northern-bred, three banded, highest grade, select, untested, guaranteed, queen and drone mothers are chosen from colonies noted for honey production, hardiness, prolificness, gentleness and perfect markings. Price \$1.00 each. J. H. Haughey, Berrien Springs, Mich.

THREE BAND ITALIAN QUEENS—One \$1.00, six \$5.00; 12, \$9.00. Prompt delivery. C. H. Cobb, Belleville, Ark.

FOR SALE—Tested 3 banded Italian Queens, \$2.00. Safe arrival and satisfaction guaranteed. Clinton Bradway, Monson, Mass.

HONEY

YOU WILL DO ME A FAVOR by supplying me with some clover or basswood honey. State quantity and price. G. A. Deadman, Brussels, Ont.

BEE SUPPLIES

HONEY LABELS.—New Designs, Catalogue Free. Eastern Label Co., Clintonville, Conn.

MISCELLANEOUS

RABBITS FOR SALE.—Flemish Giants, hardy, healthy, reasonable prices, young and mature stock. Pamphlet on management, uses, testimonials, ten cents. Deduct from first purchase. I. C. McRae, Orono, Ontario.

REAL ESTATE

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

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

FOR SALE IN BLENHEIM, ONT.—Four good lots, on which is greenhouse in good condition, 58 feet by 30, on cement foundation, an eight-roomed cement veneered house, and a barn. For further particulars apply to owner, Miss C. Halleck. 44n

SEEDS, BULBS, PLANTS, SHRUBS

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

British Columbia

W. BRUCE HUTCHISON.

An unprecedented scourge of tent caterpillars descended upon the vegetation about the cities and orchards of the Pacific Coast of Canada this year and left in its wake thousands of bare trees and leafless plants. Last summer the pest was bad enough, but this spring saw a huge increase in the number of nests or "tents." The southern portion of Vancouver Island probably suffered most, but the scourge swept the mainland and even bothered the fruit growers as far south as Washington State. While the city parks and private gardens were the chief victims, orchards, unless promptly sprayed, were in many cases badly blighted. Gardeners found not only their trees stripped, but their flowers and vegetables gnawed as well.

Deafness



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

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Fruitgrowers and gardeners attempted to prevent the inroads of the pest by burning or cutting down the nests. Though this proved effective in some cases, on the whole the caterpillar won out against these measures. Once they got a foothold on a large scale it was almost hopeless to check them. It is impossible to estimate the damage as yet, but leafless trees and shrubs attest the insects' victory in various localities. Fortunately many fruit growers in the affected areas had, in their ordinary course, sprayed their trees with a solution which, to a great extent, prevented these depredations.

Spraying is the only effective method of combatting the pest when it has once hatched out. Arsenate of lead, 2 lbs. to 40 gals. of water, applied after the blossoms fall, is a certain preventive. The careful orchardist will look for the egg masses on the twigs in the early spring. These he will burn, and later, as soon as the webs are observed, he will gather and destroy them. When the caterpillars have nearly attained their full growth, it is questionable whether this destruction does more good than harm, for the majority contain valuable parasites which should be propagated. The webs should be cut off to prevent further damage to the tree, but they should be laid aside in some place where the parasites may develop.

Items of Interest

Mr. John Taylor, of Sydney Mines, Cape Breton, has sent The Canadian Horticulturist a letter in reference to the leading editorial in our April issue entitled "A Policy of Error". In this editorial the ground was taken that the national policy of Canada has tended to build up the towns and cities at the expense of the rural districts by making it possible for urban industries to pay more wages than fruit growers and farmers can afford. In this way help has been drawn in from the country and the production of food products reduced. The statement was made that many men in the cities who were out of work refused to accept employment on the land, preferring to remain in the cities in the hope of obtaining positions at higher wages than farmers can afford to pay. Mr. Taylor stated in his letter that he had recently returned from British Columbia, where the scarcity of work in the cities was becoming acute. In that province there seemed to be very few openings for farm labor and he has returned to the East without being able to obtain work, nor did he know that the Provincial Governments were seeking for farm labor. He believed that if the Provincial Governments would advertise more extensively the openings they have for work on the land there are many men in the cities who would be glad to accept positions on farms.



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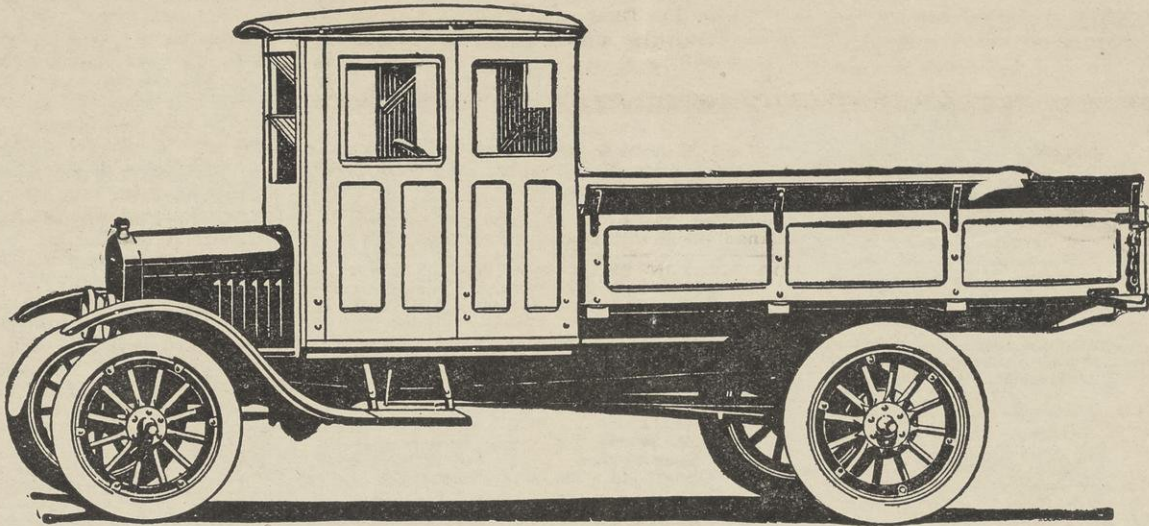
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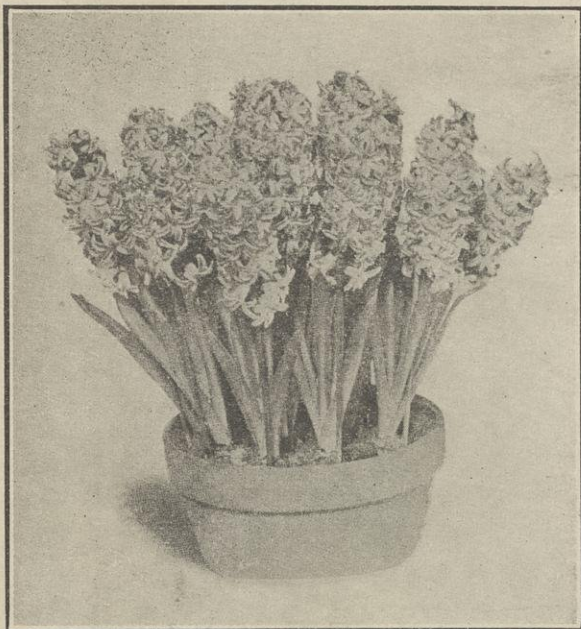
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