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THE CANADIAN HORTICULTURIST & BEEKEEPER

VOLUME 23, No. 7
\$1.00 a Year

PETERBORO, ONT.
JULY, 1915

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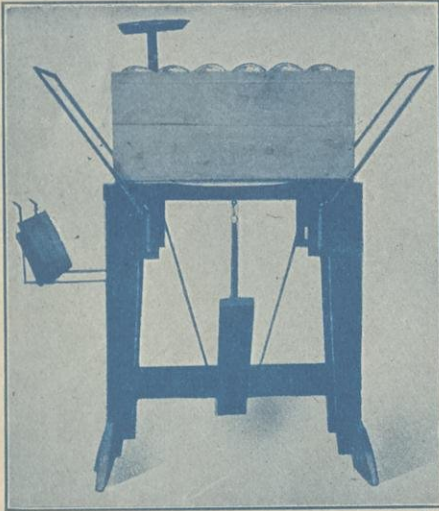
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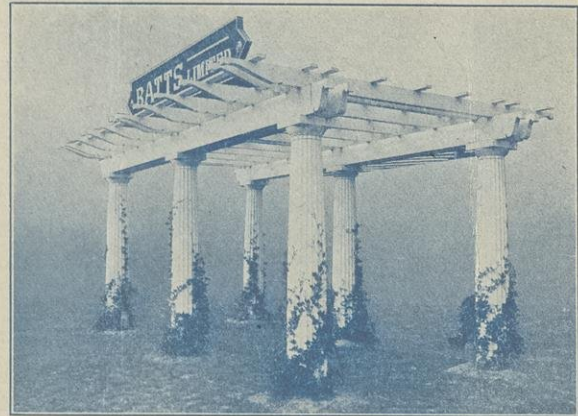
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Greenhouse Materials

The Canadian Horticulturist

Regular Edition.

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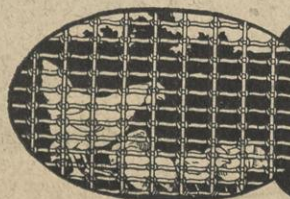
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The Canadian Horticulturist

Vol. XXXVIII

JULY, 1915

No. 7

Home Markets Unreached by Our Fruit

H. Bronson Cowan, Editor The Canadian Horticulturist

THE problems confronting the fruit grower are becoming more complex in character. A few years ago it was the common belief that if fruit growers would merely increase their production their most pressing difficulties would be solved. In time it became apparent that other factors had a determining influence on the prosperity of the fruit grower, and activities were started to secure lower freight and express rates, and ultimately for the appointment of a railway commission. About this time also the importance of marketing fruit on a better and more economical basis was recognized, and cooperation as a remedy was advocated. Growing out of all this, as the local markets became supplied, came the call for wider markets, and experiments were started which had for their object the obtaining of varieties of fruit which would stand shipment, and also to ascertain the best methods of packing for distant markets.

Until recently most of our fruit growers have felt that the fruit growers in other provinces and districts were their competitors, and that there was little in common between them. Recently we have begun to recognize that anything which will benefit the fruit growers in other sections is likely to have an important bearing on our own prosperity. A striking evidence of this new way of looking at things occurred at the Dominion Fruit Conference in Grimsby last August. The delegates from Nova Scotia were seeking the cooperation of the delegates from the other provinces in order that pressure might be brought to bear on the Dominion Government to have it use its influence to obtain a reduction in steamship rates on fruit from Nova Scotia to the British markets. Their case was listened to with attentive interest by the fruit growers from the other provinces, who seemed, however, to think that the point at issue constituted a local problem which the fruit growers from the Maritime provinces should solve for themselves. When, however, one of the Nova Scotia delegates pointed out that if these steam-

ship rates were secured it would enable them to market the bulk of their crop in Europe, while otherwise they would be forced to ship to Ontario and the Western markets, thus possibly glutting these markets, the fruit men of Ontario and British Columbia were quick to see their interest in the situation. Within a few minutes they decided to cooperate with the growers of Nova Scotia, and had appointed a representative committee to wait on the Dominion Government, and thus help to obtain the improved steamship service desired by the Nova Scotia growers. In passing, it might be added that their joint efforts proved successful. This incident shows the identity of interest that exists between the fruit growers of all our fruit provinces.

Other Problems.

Leading fruit growers are now beginning to realize and admit that the various complex problems already mentioned do not begin to exhaust those for which the fruit growers must ultimately seek to find solutions. Amongst the most pressing of these is the economic condition of the working classes, not only in our Canadian cities, but in other countries as well. A statement made at the last Dominion Fruit Conference by Mr. Elmer Lick, of Oshawa,

revealed as though by a lightning flash something of the nature of this problem. While discussing the problem of wider markets, Mr. Lick made this remark:

"The disturbing feature that 'confronts us when we attempt to 'find an outlet for our apples is 'the large percentage of the people in our cities who are unable 'to buy fruit at any price.'"

The importance of Mr. Lick's remark was recognized by all present, but no one seemed to think that the question was one which the conference was called upon to deal with. The problem Mr. Lick called attention to is such a large one it cannot be more than touched upon in this issue of The Canadian Horticulturist. For the present, therefore, let us merely examine the bearing the economic condition of the working classes in our cities at home has on the prosperity of our fruit growers.

One of the enigmas of our modern



A Nova Scotia orchard of King apples, in full crop, in which vetch was used as a cover crop. (Photo furnished by Manning Ellis, Port Williams, N.S.)



One of the many young orchards in British Columbia that is now in bearing.
—Photo by R. Leckie-Ewing, Okanagan Landing, B.C.

civilization is the fact that large crops of fruit, which should bless both the producer and the consumer, often do not bless either, at least to the extent they should, because they result in prices which while so low as to leave the producer little or no profit, are not low enough to bring the fruit within the reach of most of the working classes of our large industrial centres. Let us see how this condition works out.

Divisions of Wealth.

In a large city like Toronto there are different degrees of wealth. Supposing peaches were a short crop and hard to obtain. Ten families in Toronto might be able to pay as high as \$50 a basket and not feel the price. Fifty other families might be able to pay \$25 a basket; 100 families \$10 a basket; 200 families \$5 a basket; 2,000 families \$2.50 a basket and 5,000 families \$1 a basket. Should the crop be a large one and the price of peaches drop to 50 cents a basket there might be 10,000 families who could afford to buy peaches at that price. Below this number there might be 40,000 or more families who after paying for their clothes, fuel, rent and other absolutely necessary expenses, could not afford to buy peaches even when as low as 50 cents a basket.

How the Market Price is Set.

At this point a factor enters which should be recognized: That is that the market price of fruit in effect is always fixed by the lowest price the bulk of it is sold for. If there were only enough peaches to supply the demand of the 10 families who could pay \$50 a basket for them, the price of peaches would be \$50 a basket. When, however, the supply exceeded such a

demand but did not exceed the requirements of the 100 families who could pay \$10 a basket, then the price of peaches would drop to \$10 a basket and the 10 families who could pay \$50 a basket and the 50 families that could pay \$25 a basket would pay only \$10 a basket for their fruit. In other words, the amount produced determines the selling price. When peaches are so plentiful that in order that they may be sold the price drops to 50 cents a basket, all families alike pay only 50 cents a basket for their peaches even if many families can afford to pay much more. Should there be more than enough peaches to supply the demand at 50 cents a basket, then the growers are forced to seek for a market amongst the 40,000 families or more who cannot afford to

pay 50 cents, and in consequence the price must drop to 40 cents or 30 cents, or to whatever point is within the reach of those people. Supposing this price should be 30 cents a basket it means that the fruit must be sold at a loss to the fruit grower or, as sometimes happens, not be marketed at all.

Where the Trouble Lies.

Here then is where the real basis of the marketing question comes in. The level of a large part of the possible home market for fruit has sunk below the cost level of production. The trouble is not that too many peaches are produced, but once more in the words of Mr. Lick, "there is such a large percentage of people who are unable to buy fruit at any price." It is this condition which knocks the bottom out of the market whenever there is a large production of fruit, for if all the families in our cities could afford to pay 75 cents a basket there would not be enough fruit to go round.

In time we will realize that the only real and lasting cure is to so change the conditions of the masses that they will be able to pay a price for fruit that will ensure growers receiving a profit for their product. This then is where the fruit grower's interest in the economic condition of the so called working classes comes in. When such a condition is brought about the bugbear of large crops will lose much of its terrors for the producer. To many this problem seems incapable of solution. There is, however, no certainty of this. When we, in common with other classes in the community who are equally affected by it, approach this side of the marketing problem with the same earnestness we have displayed in other matters a remedy for it will be found.

Harvesting and Marketing the Berry Crop

Grant S. Peart, Burlington, Ont.

FOR years fruit growers have devoted their attention mainly to increasing their production. The problem of marketing our fruit to advantage is now forcing itself upon our attention. At present, the trend of opinion among fruit growers favors an increased effort in advertising our products through government agencies and in other ways. The Niagara Peninsula Fruit Growers, for example, have subscribed money for the purpose of advertising their fruits. This is good, as far as it goes, but growers can supplement these efforts to no little extent, by individual effort in the direction of placing more attractive packs on the market. We refer more especially to the small fruits.

It is deplorable how careless many growers are in the proper marketing of their fruit. Having taken pains to develop a first-class strawberry bed or raspberry plantation they seem to loose their grip when they try to sell their fruit, and therefore sell it at a disadvantage both to themselves and to the trade. When we visit the markets during the fruit season we are surprised to note the quantity of inferior grades of fruit offered for sale. These are inferior because the boxes or baskets are slack, the berries soft, or there may be too many green berries. These are the principal troubles found in many packs. Such defects tend to discourage the consumer. We can hardly blame him, therefore when, after pay-

ing a fair price for some trashy home-grown fruit, he buys bananas for a while instead of strawberries.

In part at least it is inexcusable for such defects to be found in our fruits. Slack boxes and baskets are due, among other things, to the racking in transportation, to the use of inferior varieties that are poor shippers, and last, but not least, to neglect to fill the corners of the boxes or baskets properly. The former trouble is beyond the grower's control, but the latter two are under his direction. There would be fewer slack berry boxes if they were properly filled at the packing house.

Fruit should not be picked when damp with dew or rain. The pickers should be taught to pick only the matured berries and to leave the half-green strawberries in the patch. We require strawberries to be three-fourths

red or more when fit to pick. The patch should be gone over at least every other day during the two weeks of the crop, so as to insure no waste through over-ripe fruit.

Some varieties produce softer fruit than others. The Glen Mary, for instance, we consider inferior. It appears perfect at the packing house and wasted on the market thirty-six hours afterwards. The Gibson, Parson's Beauty and Williams hold up much better.

The writer notes that inspectors with the Dominion Fruit Branch are making an increased effort this year to show growers the advantage of giving full measure and eliminating immature and over-ripe stuff. Let us co-operate with our fruit branch in this effort and do our best to market a superior article.

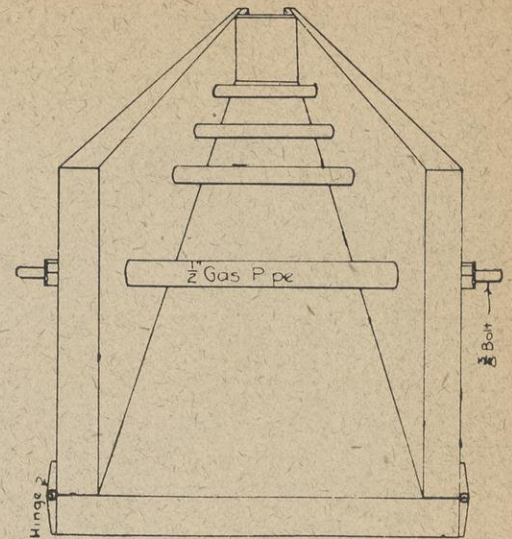
Grape Vine Posts of Concrete

THE advancing cost of lumber of all kinds has driven many fruit growers to experiment in the use of concrete for grapevine posts. Some of these experiments have proved successful. This has been due in part to the fact that concrete posts have such rigidity and strength that they can be planted farther apart than is customary with wooden posts, thus requiring fewer in number. When properly placed, they keep in alinement, and there is no decay at any point, whereas wooden posts may rot at the ground level.

The posts here shown were made of concrete consisting of one part Portland cement, one and a half parts sand, and three parts small stone. They were reinforced by placing in the corners of each post, about one inch in from the surface, a five-sixteenth inch

square twisted rod. Three-eighths inch round rods could be used in place of square rods. The posts were ten feet long, of which four feet was beneath the ground and six feet above the ground. They were six inches square at the lower end, tapering to four inches square at the top. Through each post five holes were provided to receive the wires, upon which the vines were trained. At the end posts the wires were fastened to eye bolts, three-eighths inch in diameter, and about twelve inches long. These bolts extended through the end post and were threaded with a nut for tightening the wire. The bolts and fastenings are clearly shown in the illustration.

In the construction of the trellis, the slanting brace for the end post was cast in place. A notch was left in the



The form used for casting concrete trellis posts.

post and the form for the brace was set up. The reinforcement of the brace projected beyond the end of the form and into the notch, the end of the form merely fitting up against the post. At the ground end of the brace an excavation was made. When the concrete was placed this excavation was also filled, thus forming a bulb or enlarged end, which answered the purpose of an anchor. The brace form was then filled with concrete, which was worked into the notch, entirely surrounding the ends of the reinforcing rods, the latter being curved at the ends to firmly anchor them. It would be feasible, however, to precast the brace, merely providing for it a notch in the post. The notch could be easily formed by nailing a triangular block to the side of the form. The post end of the brace should be set in cement mortar.

The form for casting the posts is very simple. It consists of three boards, which form a trough the exact size of the finished post. The side boards are attached to the bottom piece by hinges so that they can be readily swung down when the post is removed from the mold. The wire holes are established by placing at the proper points short pieces of half-inch gas-pipe cut so as to fit between the side boards of the form. Through these short lengths of pipe, which are left in the concrete, are placed temporarily three-eighths-inch bolts. These bolts, which also go through the side forms, serve to clamp the forms together while the pipe spaces them at the exact distance. This method of fastening is shown in the accompanying drawing. The mold should be oiled with a heavy lubricating oil before casting each post. This permits easy removal of the finished post. Under ordinary conditions the posts shown should be made at a cost of about thirty cents each.



Concrete posts are used in the vineyard. They never decay.



A useful garden implement that soon pays for itself.

July Work in the Orchard

Thorough cultivation in the orchard is important in the early part of the summer in order that moisture may be conserved and an abundant supply be available for the growing tree and the developing fruit. In some parts of Canada where the seasons are comparatively short and the winters are cold, it is very important to stop cultivation during the latter part of June in order to make conditions favorable for a thorough ripening of the wood. If the wood is not well ripened the danger of winter-injury is very great, and late cultivation induces late growth. Where the seasons are long and there is little or no chance of winter injury, cultivation may be continued until the middle of July, especially if the season is a dry one.

As soon as cultivation is discontinued in the orchard it is important to sow seed for the cover crop, which is an important factor in good orchard practice. The cover crop, growing during the latter part of the summer, uses considerable moisture and plant food and so helps to check the growth of the tree and ripen the wood. When ploughed under, the vegetable matter adds humus to the soil and so makes it more retentive of moisture. In the case of leguminous crops nitrogen is also added to the soil by this means.

Where it is important to hold the snow in winter to protect the roots of the trees the cover crop is valuable. If the soil is in good condition a non-leguminous crop, such as buckwheat, rape or millet, will make good growth and serve the purpose of checking tree growth and furnishing vegetable matter for ploughing under. If the soil is rather poor the summer vetch makes a good crop, and where clovers

do well red clover or crimson clover are satisfactory.

Many fruit growers, if they spray at all, do not spray after they have sprayed for codling moth when the petals of the flowers fall. In some seasons there is little danger of scab after this spraying, but in wet seasons another spraying two weeks later and possibly still another will pay well. Sometimes scab develops in late summer when the grower may not suspect it, and a late spray sometimes makes the difference between a profitable and an unprofitable crop. Bordeaux mixture and lime sulphur wash are about equally effective in controlling apple scab, but there is less danger of russetting the fruit if lime sulphur is used.

Fire Blight and Cankers

The summer is the time when much can be done to prevent "fire or pear-blight" from becoming serious. It costs little to remove all dead twigs or limbs in the summer, when they will show up well; and the doing of this prevents a lot of serious damage. Fire blight, black rot and other fruit diseases will destroy twigs, and, if not removed in time, "hold-over cankers" will form on limbs or trunks, which you cannot remove without spoiling the tree. If you do not remove such dead twigs during the summer months, your trees will always go back, because you aid in the propagation of these diseases, and sooner or later you will have to remove the whole tree.

Do a little work now and save the tree; but do it well. Take a knife or shears or saw, and sterilize them in a solution of one part of Perchloride of Mercury to 1,000 parts of water, and cut off the diseased twigs well below the diseased tissues. After using the

implements, dip them into the disinfecting solution before making another cut. Burn all cut-off material without delay.

Orchard Suggestions

Keep the cultivator going. Every weed allowed to go to seed now means many weeds next season.

Plums and apples may be budded the latter part of July or early in August. Try a few. It is an easy way to increase good varieties.

Now is the time to buy a home canning outfit. The June issue of the *Minnesota Horticulturist* contains a good paper on home canning.

Cover crops of oats or buckwheat may be sown in the orchard now to hold the snow next winter and check the growth of the fruit this autumn.

GARDEN SPRAYS.

Fruit growers at this time of the year should watch their shrubs closely so that attacks of insects may be controlled before they become serious. The lice are found on the under side of the leaves, causing the leaves to curl.

Currants are likely to suffer from plant lice at this time. Spraying should be done before the leaves are badly curled. The spray to use is tobacco extract—a forty per cent. solution at the rate of one tablespoonful to a gallon of water, with about a half-pound of soap for each five gallons to make the spray stick.

The currant saw fly or "currant worm" also appears about this time. Spraying early with arsenate of lead will prevent injury to the currant, but if the berries are well grown when the worms make their appearance, hellebore should be used as this will not be poisonous on the fruit. Hellebore is a powder and should be freshly bought and sprinkled over the plant while the dew is on.

The currant worm can be killed also with tobacco extract. If the aphid is also present, probably a thorough spraying with tobacco is the best treatment.

A Correction.—In the June issue of *The Canadian Horticulturist* there appeared an error in connection with the article of M. M. B. Davis, on "Vegetable Gardening." The White Butterfly, as described in this article, is the adult of the green cabbage worm, not the adult of the cabbage maggot. The adult of the cabbage maggot is a small insect resembling the house fly. The methods for the control of this cabbage maggot are as described in the article; the only error was in the description of the adult female insect.

Garden Reminders for July

Wm. Hunt, O.A.C., Guelph, Ont.

PLANTS of annuals and also those of tender perennials, such as petunia, verbenas, salvia, ageratum, sown out of doors early in the season, will soon require the final thinning for flowering purposes. The distance apart to thin the different species and varieties depends much on the habit of growth of the plant, and whether dense masses of inferior flowers are required rather than a smaller quantity of first-class blossoms. The fertility and nature of the soil has also to be considered.

In good loamy soil, rich in fertilizers, plants can be given more space than in sandy or heavy clay soils not so rich in fertilizers. For very tall plants, such as ricinus (castor oil plant), cosmos, African marigold, and some of the branching annual sunflowers, eighteen inches to two feet apart is not too much. Asters, ten-week-stock, balsams, zinnia, celosia or plumed cockscomb, French marigold, dwarf nasturtium, calendulas (pot marigolds), and plants of a similar sturdy, bushy habit of growth, should be thinned to about eight inches apart. Coreopsis, phlox drummondii, silene (catchfly), mignonette, poppies, gypsophila elegans, godetia, virginia stock, as well as almost all of the dwarf edging plants, such as sweet alyssum, candytuft, portulaca, ageratum, may be given less space and be thinned to from four to six inches apart.

Dahlias.

Do not forget to stake dahlias early enough, as the stems are very brittle

and liable to be broken off by high winds or heavy rains. It is best to place the stake in position when the plants or roots are set out, then the tying up is an easy matter. A strong stake, five feet in length, is necessary. Be careful and not bind the stems around too tightly with the tying material. Only two or three main stems at most should be left to flower on each root. Cut out the small, weak shoots close to the ground, leaving only the strong, vigorous canes or stems.

The lower lateral or side shoots that grow on the main stems should be kept pinched off as soon as they appear, to about eighteen inches from the ground, according to the height and habit of growth of each variety. Pinching off these laterals throws the strength of the root into the upper part of the flower-producing growth. Dahlias should be watered and sprayed liberally in hot, dry weather.

The tarnished plant bug (*Lygus pratensis*) commences its destructive work on dahlias as soon as hot weather commences. It is best to anticipate the visits of these destructive pests and start to dust the terminal points of all growth with pyrethrum or Persian insect powder. This is more as a prevention than a cure for the attacks of these little fly-like bugs that are so destructive to asters and chrysanthemums as well as to dahlias and other flowers. Dust them, as stated, early and often when the plants are damp (not too wet). Dry, finely-powdered coal soot or wood ashes are also good

remedies used in the same way as the pyrethrum powder.

Gladioli.

Gladioli require very little attention during the summer except perhaps tying and staking. Unless a very severe drought sets in, they seldom require water if the soil is suitable for them and not of too sandy a nature. It is well to keep the old blooms as well as the old flowering stems cut off, so as to prevent seed from forming on the plants. If seed heads are allowed to form, it proves a great strain on the strength of the plant and prevents the production of lateral or side spikes of bloom, as well as retarding the full growth of the new corm or bulb.

To have gladioli at their best for vases indoors, the spike should be cut when only two or three of the lower flowers have developed. The balance of the buds will usually open well indoors and the spike present a much better appearance than if left longer on the plant. Change the water they are in every second day, and cut off the base of each stem half an inch.

Sweet Peas.

In very dry weather, water sweet peas thoroughly. Soak the ground profusely about once every two weeks. This is better than light surface waterings given more frequently. As the heat increases, look out for insect pests. Aphis and red spider are the two worst pests. Spraying the plants frequently with clear or soapy water under pressure, especially the under side of the foliage, and dusting the plants when



A delightful but inexpensive lily pool in the garden of Mrs. McNair, 141 Dundurn St., Hamilton.



It is well worth while preserving grand old trees such as this one. The rotted wood having been removed, there does not seem to be much good wood left. Note accompanying article.

slightly damp with dry, finely-powdered flowers of sulphur, is a good remedy for red spider. Any soap or tobacco solution, or both combined, is a good remedy for these insect pests.

Boiling soap suds poured on tobacco of any kind, covered up close and allowed to steep until cool and applied with a fine spray under pressure, is a good remedy or preventative for almost all summer insect pests. Sulpho-tobacco soap, to be bought at seed and drug stores, is a good remedy for insect pests on any plants. The spikes of blossoms should be kept picked off every second day at least, to prevent seed forming, and thus prolong the season of flowering and secure larger flowers.

Paeonies.

Cut the seed heads off paeonies at once after the flowers have dropped their petals. It will help the roots to develop for next season's flowering.

House Plants.

All house plants, such as palms, ficus (rubber plants), dracaenas, callas, English ivy, fancy pelargoniums, and similar plants, should be stood out of doors in partial shade where they do not get the heat of the sun during the middle of the day during July and August. Plunging or sinking the pots up to the rim in the soil—or, better still, in coal ashes—helps to keep the plants in better condition than if stood out on the ground. Whether the pots are stood

out or plunged as stated, it is always best to have two or three inches of coal ashes under them to prevent earth worms getting into the pots and thus often choking the drainage.

Many flowering plants, such as impatiens (bloom for ever), marguerite daisies, chrysanthemums, and similar soft-wooded plants, may be planted out in the garden during the heat of summer to advantage.

Saving The Old Trees

Many old trees that have afforded pleasure to their owners and to the public for years, but which through rot which may have affected their trunk or branches, have begun to lose their vigor and beauty, might be saved and their life prolonged indefinitely by the application of right methods of treatment. While we do not as yet appreciate the worth of our old trees as do the people from older lands, such as England, yet already we have lost so many magnificent specimens that more interest is now being taken in this subject than ever before. In recent years, men have commenced to make a business of doctoring and preserving trees. In many cases their services are paid for at remunerative figures by wealthy people who desire to preserve trees surrounding their homes and beautifying their gardens.

When the tree doctors, as they are sometimes called, commence to treat an old tree that is badly decayed in the trunk and branches, their first act is to prop up the branches so that there will be no danger of their breaking off during the process of the work of treatment. They then proceed to cut and saw and scrape until all the decayed matter in the tree has been removed. Often the trunk and branches have to be opened up and hollowed out in order that the dry rot may be followed to its very extremity, and until the quick of the tree shows clear and white. The tree is then disinfected and washed with ship tar. In cases where it becomes necessary to give extra support to the heavier branches, iron rods, bolts, and turnbuckles are used in such a way as to secure an even and normal strain on the supporting parts of the tree.

The holes in the trunk and branches are filled with cement until the original shape of the trunk and branch have been regained. This is often covered with sheet tin, which is let into the quick of the surrounding bark. In time this tin becomes covered with new skin and bark, which encroaches on the tin till it closes together. While this treatment does not always prove successful, it has been attended with excellent results in many cases. Only experts who understand the work

should be engaged to perform such work, as, if conducted by novices, the trees may be more damaged than benefited by such treatment.

Balsams in the Garden

W. G. McNair, Hamilton, Ont.

THE balsam is a garden annual which is not appreciated in Canada as its merits deserve. I grow the camellia-flowered variety, which is the best strain. Most of the garden balsams are now double or semi-double. It is the full double forms that are known as the camellia-flowered varieties.

When we mention balsams, most people think of a slender plant about one foot high and perhaps five inches in width, having perhaps a dozen flowers growing on the base of the leaves. That seems to be about the size of the plant grown in the average garden. Where good care is given, splendid results follow. I have had plants over two feet six inches high and two feet wide, with a central stock two inches and more thick. Plants of this size resemble azaleas, especially when a few of the leaves have been removed in order that the blossoms may be seen to better advantage.

A bed ten feet by twelve feet is suitable for these flowers. It should be dug thoroughly and raked nice and level. The soil in my garden is a sandy loam and fairly rich, so I have never had to use manure on the beds. Where the soil is not rich, a little well-rotted manure dug in thoroughly would do good.

I mark out the bed in squares by making rows two feet apart each way. At the point where these rows intersect, I sow about five seeds. This helps them to break the soil. When they are about two inches high, I thin them out to one plant, leaving only the strongest one at each point. The plant should be kept free from weeds and cultivated each way. I use a garden rake for the purpose, and aim to keep a dust mulch on the soil all summer.

To obtain the best results, balsams must be well watered and never allowed to droop, especially when the flowers start to appear. As the season advances, they will branch out and assume the shape of miniature trees and fill in the space between the plants. When in full bloom, the lateral branches can be cut and placed in vases, where they will last for some time. I generally remove a leaf here and there to allow the flowers to show to better advantage. If anyone will try this plan of growing balsams, they will be well repaid for their trouble. They can be grown in borders if plenty of room is left for their development.

The Beekeeper

With which has been Incorporated The Canadian Bee Journal

Vol. 23

JULY, 1915

No. 7

× Bees in Trees in British Columbia

L. Harris, Vernon, B. C.

TO anyone who has a taste for a little quiet, innocent sport, bee-hunting affords a lot of fun that is very interesting. British Columbia is an ideal country for the bee-hunter. Bee-trees abound in large numbers in most of the wooded districts.

During my work as inspector of apiaries, I meet a large number of persons who keep bees. Invariably I am told that they have lost swarms and that the bees have gone to the woods. This we can quite believe, having had some experience along this line during our earliest beekeeping in this country. This will help to explain why there are so many bee-trees in British Columbia. After all, it is a very natural instinct for bees to want to get as far away from danger as possible.

Honey bees are not like the domestic animals around the home. They cannot be tamed by feeding and making pets of them. They are not of a sociable disposition. They are often more hostile to the person who is continually moving about amongst them, attending to their every need (not forgetting his own interests), than to a complete stranger.

Are we not apt to think that because we have some sort of control over them, and know a little about their habits, that they have become domesticated? Bees are no more domesticated to-day than when they were first created. I believe bees live long enough to recognize the one who is always moving about them, but beyond that he has no domesticating influence over them.

The fact that their life is so short during the active season would make it very improbable that they could become domesticated. In the winter months they so seldom come out of their hives it is highly improbable that they could make acquaintances outside the hive.

There is a trait in the character of bees which is very valuable to the beekeeper, one which makes it possible to keep bees at all. That is, they very seldom swarm out of their hive and go direct to the woods. Instead, they generally alight on some nearby object, thus giving the owner an opportunity

to secure them and get them into a hive that is most suitable to his purposes. This does not mean that they cannot do without his assistance. They lived and thrived for thousands of years without man's help, and no doubt could do it again; so that just this one simple fact that they do not often fly straight away to regions unknown, without giving a little notice, makes it possible to keep bees and gives us control over them. The honey

bee, being the most valuable insect for food production to man, this feature in its character is the more interesting.

Accompanying are some illustrations showing some bee-trees. One shows a tree with combs fifteen feet long and ten to twelve inches wide. It was found by Mr. Lambert, of Ashcroft, B.C., in 1914. Mr. Lambert is a very successful bee hunter, having found no less than thirty trees with bees in them. He succeeded in wintering twenty-eight of them.

× Seasonable Hints for Honey Producers

H. D. McCulloch, Washago, Ont.

IT is unwise to adopt the drastic and grossly unnatural expedients which are set forth as sure cures for the swarming fever, if not certain preventatives of it. Work toward prevention. Rely on the use of some or all of the many means by which, without violating the instincts of the bees, they can usually be induced to remain together in one hive and there pile their delicious hoardings.

Very early in the honey flow en-

courage your humming artisans to occupy as much space as they may reasonably be expected to require. The mere piling on of supers may be sufficient if these are full of combs, especially if darkened by brood rearing. It is not likely to avail, however, if they contain merely foundation, and certainly not if only starters. Mere abundance of space for expansion is vain unless the bees can be induced to occupy it and regard it as their



The work of wild bees in the coast district of British Columbia. Note accompanying article.

home. If your colony has a rousing force of bees you can do wonders with it in this direction and often find swarm prevention easier than in the case of a weak colony that persists in hugging the brood nest and feebly working one super.

When your colony is working hard in one super raise the latter and place under it a second containing foundation or comb, but if only foundation is available for the second super, ensure its immediate occupation by adding two or three of the already heavy super combs, say, one at each side and one in the middle. If the brood nest is congested sealed brood replaced by scattered frames of foundations could be very advantageously used instead of the honey. This, however, is rather drastic and is not always necessary or advisable. First, because it gives the new white comb to brood and dark comb to honey, and second, it necessitates examining for queen cells on the seventh or eighth day, the raised brood combs. But even combs of unsealed honey, mixed among frames of foundation, ought to be rearranged soon else they are liable to be drawn out to an enormous thickness at the expense of space which the new combs should occupy.

If your colony's work and the prospect of a continued flow warrants it, a third super may be given. Place it between the others or at least bait it with honey or brood, the latter often being available from colonies that have swarmed, if you do not care to tear down the whole hive. It almost seems that by such a method bees are beguiled into so great pride, or rather let us say contentment with their labyrinthine stack of honey and wax work that they will continue to work with zest right through the swarming season, sometimes even superseding their queen without swarming out. Even if they should swarm, the bees being busy over so large a honey surface will result in a much larger proportion of them remaining in the hive to continue the work of storing.

Give Ventilation.

Next in importance to plenty of "elbow" room for both queen and workers is adequate ventilation. Such a large hive should not have as many cracks as a barn. Indeed over-ventilation is one of the drastic expedients which might either disgust the bees, or prevent swarming at too great a cost. Therefore avoid a multiplicity of ventilators. I would not advise blocking up the hive off the floor all around. That might add to the comfort of the bees at mid-day in exceptional weather, but more often such a draughty arrangement is too much of a good thing. It has the further disad-

vantages of enabling the bees to form the habit of flight from all sides with consequent confusion when the hive is brought back to normal position, and worse still, it invites the bees to make fearful sallies upon the ankles of the operating apiarist.

Ample bottom ventilation can be secured (even without ventilated floors), by the simple adoption of deep, full-width entrances, which can be further enlarged by raising the front of the hive by wooden wedges of, say, one inch thickness at the base and tapering to a point just about the back of the hive. It will also be found helpful to have the hive, especially the alighting board, painted white or some light color that does not become hot in the sunshine.

Hives that stand in unbroken sunlight ought to be provided in hot weather with shade boards and objects (such as empty packing cases), which interfere with a free circulation of air among the hives, should be removed. As to upward ventilation, be cautious, remembering that you desire wax working to be possible in all parts of the hive, not only at midday, but all night as well. For special needs, turn back the quilt and raise one end of the cover, replacing it when the hot spell passes.

If such natural methods of swarm control should fail, owing to the presence of many too old queens or other special causes, hive swarms on a new stand. If you are determined to keep the full force of bees together, hive them on an old stand with all brood replaced by full frames of foundation. These removed brood combs freed from bees and queen cells can be distributed among nuclei or weak colonies.

After Swarms.

To prevent after swarms I will mention two methods (allow me to remark here that the plan of hiving prime swarm on old stands and removing old stock never succeeded in preventing after swarms, in my experience).

Go through the colony on the seventh or eighth day and cut out all cells but one. Try to leave the best one. This generally works, if thoroughly done. To make a sure job of it the bees must be shaken off so that out-of-the-way cells shall not be overlooked, but remember that at certain stages at least shaking is fatal to queens in cells. Everyone is familiar with this procedure, but not everyone considers that by following it they are precluding the operation of natural selection by which nature seeks to guarantee to every colony a vigorous queen. Moreover, in certain seasons or with certain strains of bees, the rules for the time of the issuing of the prime swarm in relation to the age of queen cells

are, it would seem, as often broken as followed.

Method matters can be settled once for all by the following easy plan: Hive your aftermath anywhere on starters, full sheets, or even with a few combs to catch the honey at once. The bees work with vim, of course. When the colony has established itself, say, on the evening of the second day, lift it quietly from its floor and place it back over the super or brood nest of its parent stock from which the excluder has been removed. Next morning the whole force will be settled in the old home with one undisputed and vigorous queen.

Treating for E. F. B.

Chas. Stewart, Albany, N.Y.

We have found that we get better results in treating European foul brood to shake but once and to inspect the brood later when about one in ten will be found reinfected, which may be again treated. Properly done, this does away largely with the bees becoming discouraged and swarming out as they did when given two shakings. We have had fine results in treating, using hives from which diseased bees were just removed. What difference does it make if you do kill a few hundred germs on the inside of the hive when the bees you put in this hive have thousands in their sacks? Much of the reinfection is caused by carelessness. An extensive beekeeper asked me to come and see him, as he had followed my instructions faithfully and about eighty out of one hundred were reinfected. I found that he had piled the diseased combs in his honey house, but there was a crack under the door, and the bees were stealing a little of this honey.

Colonies may be treated and the brood placed over the queen and most of the bees with an escape board between so that when the bees hatch they can only go one way, and that is down where the queen is. When the brood is hatched the combs may be rendered.

When diseased colonies are discovered too late in the season to shake, they may have combs of healthy honey given or rather exchanged after all brood rearing ceases.

As the combs given are free from germs and no brood will be reared until the next season, all germs contained in the bees will have disappeared.

Our New York State law has worked out very nicely, although parties who wished to move bees that were diseased into clean territory and were forbidden, told us the law did not say they should not be moved, but when they learned that an inspector would meet the bees on arrival they concluded not to move.—



What is worth doing is worth doing well, is the motto of the Leeds and Grenville Beekeepers' Association, who on this occasion were gathered for demonstration purposes at their third annual basket picnic held at the home of M. B. Holmes, Athens, Ont.

Notes and Comments

By Morley Pettit

THE April, 1915, number of the New Zealand Beekeepers' Journal, official organ of the New Zealand Beekeepers' Association, has come to hand. The first impression received from reading it is that the organization of beekeepers in New Zealand is very much awake; that they are not only looking after social and producing interests and the control of disease, but they are making a vigorous effort to control the quality of honey produced and obtain good markets for the same.

The programme of the annual conference of beekeepers of the Dominion, held in Wellington, New Zealand, on Wednesday, June 2nd, looks very much like business. The following are some items:

Railway freights and charges; the administration of the Apiaries Act; the advisability of the appointment of local inspectors; grading, as it affects our exports, and the establishment of standard qualities; Pure Foods Act as it affects the honey industry; co-operative schemes.

All bee-men are invited to attend the conference.

An appeal is made by the secretary for honey for the distressed poor of Great Britain. This, by the way, suggests a good outlet for some of the 1913 honey said to be still in the hands of Canadian dealers. Patriotic honey dealers will please take notice.

The Australasian Beekeeper for April, 1915, has a number of essays written for a prize competition on the

subject of "The Forecasting of Honey Flows—Conditions that Influence Them." The first prize is given to W. Ager, of New South Wales. He classifies the honey-producing flora as ground flora and tree flora, and his conclusions may be summed up in the necessity for plenty of rain early in the season, followed by dry, warm, electrical weather during the blooming period. Parching winds, however, destroy the prospects, as does overabundance of rain and cold snaps.

He concludes by saying that "any estimate is precarious, for the vagaries of the coming season often upset the most careful calculations." Evidently desirable weather conditions in Australia are similar to our own. They depend more largely, however, on blossoming trees than on the clover which is our mainstay. Both the New Zealand and Australian Bee Journals have a distinctly British flavor, although they quote considerably from United States publications.

The Beekeepers' Review for June (the organ of the U.S. National Beekeepers' Association), has an editorial by Mr. Townsend, on "Moving Bees with Team and Wagon." Mr. Townsend makes the most important injunction that at least two men should go with each wagon, one to handle the horses, and the other with a lighted smoker ready to manage the bees in case of accident. His statement, further over, that bolster springs are no benefit in moving bees, is quite the op-

posite of my experience, however. I imagine it would depend on the style of springs and the kind of rack used. I have used both coil springs and the ordinary leaf spring type, and much prefer the latter. With these and a light flat platform high enough to clear the wheels, moving on wagons loses a great deal of its sting. Mr. Townsend says that a heavy load of fifty swarms and covers are not so easily kept in place on springs as without them. If he had reversed the phrasing and said that they were not so easily kept in place without springs as on them, it would have agreed with my experience, which has been quite extensive. Of course, when it comes to moving bees under all conditions of weather, if roads are passable, the motor truck has them all beaten.

Seasonable Reminders

F. W. L. Sladen, Dominion Apiarist

The four months, July to October, are among the most important in the bee year, and include almost every operation in bee-keeping. During the early part of July precautions against swarming must be continued in most places, and swarms watched for and dealt with. Sudden and heavy honey-flows may be expected in July, and empty supers—preferably extracting supers fitted with empty combs—should be held in readiness to be given as soon as those already on the hive are three parts full. The honey should not be removed from the hive until all or nearly all of it is capped over. In removing the honey care must be taken to prevent robbing, which is very likely to start if honey is exposed when the honey-flow is declining or has ceased.

Success next season will depend largely upon proper preparation of the bees for winter. Any colony in which the bees fill less than about seven of the spaces between the combs should be strengthened by uniting it with another colony, and a large proportion of the bees of each hive should consist of bees reared not earlier than August, because the older bees will quickly die off in winter and early spring. Queens hatched during the current season coupled with the gathering of some nectar in August and early September—as is usual in most places—from goldenrod, aster, etc., will insure the rearing of a sufficient number of these young bees, but if the queens are old and the bees are idle during August judicious stimulative feeding with thin syrup will be desirable.

Although I keep but a few colonies of bees I find that it pays me to belong to the Ontario Beekeepers' Association, and to receive my copies of *The Beekeeper*. —E. J. Atkin.

Honey Production in British Columbia

F. Dundas Todd, Foul-Brood Inspector

IN October, 1914, there were listed on the records of the Department of Agriculture the names of 966 beekeepers in British Columbia, and it is estimated that there are probably about 200 more with whom the bee inspectors have failed to get into touch. From all known beekeepers there was requested a honey crop report for the years 1913 and 1914, and 385 responded. Briefly stated, we obtained the following results:

	in April.	Pounds.	per Hive.
	Colonies	Crop in	Average
1913	1,191	37,782	31.7
1914	2,137	117,275	54.8

If we assume that those reporting are fairly representative beekeepers, then a little calculation will show that the total honey crop of the Province in 1913 was probably about 50 tons, and in 1914 from 150 to 200 tons.

Four years ago there was a fairly unanimous agreement amongst the beekeepers visited by the inspectors that British Columbia was a rather poor bee country. Let us take the reports and learn what light they throw on the subject.

First, let it be said that a country is considered a good one for bees when a skilled beekeeper can depend upon a crop of 50 pounds a hive, one year with another. The year 1913 was considered by many to be the worst season for twenty years in British Columbia; 1914 was deemed above the average, so we have the extremes of good and bad. As a sample of what constitutes a poor year elsewhere, one may refer to the Province of Ontario, where skilled beekeepers report an average of 10 pounds a hive in 1914.

Now, we have very few skilled beekeepers in British Columbia, yet the reports indicate an average crop of over 31 pounds a hive in 1913. If we select out of the reports the apiaries reporting 31 pounds a hive or over, we will find that fifty-six beekeepers with 525 colonies produced 27,832 pounds of honey, or an average of 53 pounds to the hive, while 329 beekeepers owning 666 hives produced 9,950 pounds, an average of 15 pounds to the hive. It begins to look as if a very poor season in British Columbia would be called a good season anywhere else.

Examining the figures for 1914 in the same way, we find ninety-three beekeepers who report an average production above 60 pounds. They owned a total of 778 colonies, and raised 65,352 pounds of honey, being an average of 84 pounds. On the other hand,

292 beekeepers owning 1,359 colonies produced 38,824 pounds, being an average of 29 pounds per hive.

The foregoing figures seem to suggest that the difference between a skilled and an unskilled beekeeper consists in this: that the former gets a crop of honey three times as great as does the latter. If we take the average reports for 1913 by Inspectors' districts, we find that in the Okanagan and Thompson River country 117 colonies produced 7,864 pounds, an average of 67 pounds; in the Kootenay and Arrow Lake region 111 colonies yielded 5,105 pounds, an average of 46 pounds; in the Lower Fraser Valley and Vancouver Island region 297 colonies gave 14,683 pounds, an average of 50 pounds.

Examining 1914 in the same way, we find that Okanagan and Thompson River District possessed 161 colonies yielding 15,369 pounds, an average of 95 pounds; Kootenay and Arrow Lake region, 146 colonies producing 11,159 pounds, an average of 75 pounds; Lower Fraser and Vancouver Island had 471 colonies yielding 38,824 pounds, an average of 82 pounds. While these figures are most excellent, especially when we consider how few really good beekeepers there are in British Columbia, they, as a matter of fact, merely suggest the possibilities of honey production, for reports of an average of 150 pounds per hive and over are not uncommon.

PAID HIM WELL.

You may discontinue my advertisement in the classified department of The Canadian Horticulturist and Beekeeper for the present. I will insert it again as soon as I get caught up with orders.

I am well pleased with results obtained through the advertisement, as I am getting quite a run of orders from Canada.

J. Ivan Banks, Dowelltown, Tenn.

We also learn that in 1914 in all probability our honey production equalled consumption. The rather sudden upward movement in production, combined with a decided tendency towards lower consumption will in some districts delay the marketing of the crop. It must be remembered that the wholesale houses usually contract for California honey about March, and that there-

fore these obligations are still in force. Furthermore, the honey-crop is not a short-period product, so its consumption is necessarily spread over the year, being most in demand when perishable fruits are scarce. The average beekeeper should therefore endeavor to sell as much as he can locally, spreading the sale as much as possible over the whole year. What he should cultivate is a line of steady customers.

The people of British Columbia are rather small consumers of honey, so there exists an excellent potential market that should develop with a little effort on the part of the beekeepers. One beekeeper thoughtfully reported that he had sold 200 pounds of his crop locally in quart sealers at 65 cents a quart net. Then he shipped 400 pounds in pint and quart Schram sealers, a dozen to the case, to the City Market, Vancouver, where the honey sold on an average at 75 cents a quart. Deducting freight, containers, commission, and other charges, he got 17 cents a pound for the honey.

Like all other farm products, the more tempting the manner in which honey can be presented to the buyer the better price it will command. It may just as well be frankly said that the average beekeeper in the Province is not getting his product in first-class marketable shape. To be tempting, extracted honey must be bright and sparkling, not in the least cloudy, and of a light-golden color. Now, when judging honey at local agricultural exhibitions, I find that most of what is shown is dull and cloudy, due to the presence of particles of wax and pollen. This condition follows if honey is cool when extracted. To remedy the trouble the honey should be slowly warmed to a temperature of about 140 degrees, when all the particles will rise to the surface and can then be skimmed off. The wood enclosing section honey should be scraped clean, inside as well as out, with a jack-knife. The Inspectors are agreed that on quality alone British Columbia honey will some day hold a high reputation. They know of nothing better.

Winter Losses Very Heavy

Canadian Beekeepers should not be downhearted. In fact, if we all adopted the view of one correspondent who writes that he finds beekeeping profitable whether he gets any honey or not because he gets so much pleasure out of keeping them, we would all see a rosy future for the industry. If the beekeepers who were alarmed at the large crop of 1913 had wished for a reduction in the number of beekeepers in Ontario, large as well as small, they could not have had their wish much more fully gratified than by the results of the last twelve months.

Imports of Honey Into Canada for Consumption

YEAR ENDED MARCH 31, 1914

Canadian Tariffs: General, 3c per lb., Preferential, 2c per lb.

COUNTRIES	GENERAL TARIFF			PREFERENTIAL TARIFF			TOTAL IMPORTS		
	Quantity Lbs.	Value \$	Duty \$	Quantity Lbs.	Value \$	Duty \$	Quantity Lbs.	Value \$	Duty \$
British West Indies	2,050	133	61.50	249,146	15,118	4,982.92	251,196	15,251	5,044.42
China	214	5	6.42	—	—	—	214	5	6.42
Cuba	150	10	4.50	—	—	—	150	10	4.50
Germany	9	3	0.27	—	—	—	9	3	0.27
Hong Kong	1,430	43	42.90	—	—	—	1,430	43	42.90
New Zealand	—	—	—	3,312	433	66.24	3,312	433	66.24
Turkey	113	27	3.39	—	—	—	113	27	3.39
United Kingdom	1,576	146	47.28	14,625	1,393	292.50	16,201	1,539	339.78
United States	265,935	38,674	7,978.05	—	—	—	265,935	38,674	7,978.05
Total Imports	271,477	39,041	8,144.31	267,083	16,944	5,341.66	538,560	55,985	13,485.97

NOTE—The Bahamas trade returns show no exports of honey, but according to the Jamaican trade returns the exports of honey from Jamaica to Canada during the calendar year 1913, amounted to 17,809 gallons, of a value of \$12,093. Therefore, I conclude that the bulk of honey imported into Canada from British West Indies came from Jamaica and not from the Bahamas.



An apiary demonstration at the home of W. B. Anderson, Peterboro, Ont. After work in the apiary the verandah makes a good auditorium for a lecture.

Many colonies gathered a surplus of honey from hard maple during the spring of 1914 and did not gather much more after that. The poor fall honey flow hindered natural requeening and breeding up of young bees for winter. As a result many colonies went into winter quarters, not only with small clusters of old bees, but with old queens, and perhaps worse than all, a store of that hard maple honey, which, if it had not already done so, very soon granulated, causing the death of the bees during the winter. Scores and hundreds of the smaller beekeepers all over the Province have been practically wiped out, as a result of these unfavorable conditions. Even some of the most extensive beekeepers have lost heavily—from 25 to 50 or 60 per cent.

Many colonies which survived the winter, lost out during the spring on account of failing queens. Even those who were most careful about requeening during the previous season have had loss of queens this spring. It is impossible to estimate the average loss of bees throughout the Province, but evidently 50 per cent. is not a high estimate.

At the present date of writing (June 18) we have had plenty of showers, clover is looking well, is in full bloom, and it is so cool that the bees are doing nothing. It is to be hoped that this will turn so that we may get heat and honey. That part of it we will know by the time this article is in print.

MORLEY PETTIT.

Apiary Demonstrations, 1915

The season for apiary demonstrations for 1915 in Ontario is nearing a close. Over fifty meetings were held in all parts of the province, under the direction of the Provincial Apiarist, Mr. Morley Pettit. The value of these gatherings cannot be over-estimated.

Early in the spring arrangements were made for suitable apiaries, a date was set, the inspectors were notified to take charge of the meeting and the necessary advertising, both by an individual card and a notice in the local newspapers, was sent out. Owing to the excellent demonstration material to be found in the apiary the demonstrators have been able to illustrate many of their remarks in an impressive manner.

Foul brood has occupied a prominent place on each program. The symptoms and cure have been explained, and a colony put through the treatment. In this way the small farmer beekeeper has learned how to transfer his bees and the work of the inspector when he finds disease, in telling the beekeeper how to treat, is thus considerably shortened. Manipulation to control swarm-

ing, spring management, how to find the queen, queen introduction, taking off the crop, wintering and other practical problems have also been discussed.

That many people make special efforts to attend at least one of these meetings each year is very gratifying to those in charge. The attendance varies from 12 to 75, depending greatly on the weather. In some sections meetings can be arranged for during the fall honey flow. Any beekeeper wishing such a meeting in this neighborhood should write Mr. Morley Pettit, Ontario Agricultural College, Guelph, for particulars.

✕ Breeding Problems

R. F. Whiteside, Victoria County, Ont.

What has been said in regard to breeding from males in preference to females will also apply to honey bees. We see many notices of male breeders for sale, but with bees it is nearly always females, queens. It is males—drones—we really need. So, after spending many dollars in queens, at last I have come to the conclusion that one or two good queens placed in each yard are ample for from them plenty of pure drones can be very easily raised and if the drone comb is removed from all the inferior hives, in a very few years all will be well bred, with little expense.

For instance, my neighbor beekeeper removed all drone comb from his bees so his virgins mated with my Italian drones, so without ever spending a dollar on queens his apiary is up-to-date with Italians, so he even has little fear of the European foul brood that is so rapidly destructive to black bees.

Breeding Principles Explained.

Editorial comment by W. A. Chrysler: It is important to have well-bred males in breeding to acquire or maintain a pure or superior race of bees, but it would take several generations to eliminate the blood from black or any other variety of bees by selecting drones alone. It is well to remember in bee life that the father of a drone is his mother, that a virgin queen has the function of producing the same strain as that of her mother in producing males.

After mating with the drone, the eggs that produce females or workers will have the combined characteristics of the male and female, but the eggs that produce males or drones will have no characteristics or marking of the supposed male parent. For instance, if a beekeeper had 40 colonies of bees, two colonies of which are pure bred Italians, and the balance pure blacks; the young black queens, should they mate the pure Italian drones, would produce hybrid

workers and hybrid young queens in the next generation, but the drones produced by such queens would be pure blacks. The difficulty would arise in eliminating the drone comb and black drones for several generations except in the two Italian colonies.

On the other hand, if thirty-eight young queens were raised from the two pure bred colonies of Italians, even though they were mated by the black drones, they would produce pure Italian drones in the next generation. You would then have Italian drones produced in all of the colonies in the yard. It will be seen that in order to produce good males it is important to rear good females.

An Experience With European Foul Brood

Editor The Beekeeper,—As The Beekeeper has been coming to me regularly for over a year, I will describe my experience with that dread disease, European foul brood. I have been keeping bees since 1908. I began with one colony of common black bees and was very successful until last summer. In the spring of 1913 I had twenty-six good colonies. In the fall of 1913 I had fifty-two. They increased as indicated and produced 2,400 pounds of honey (about two-thirds of it clover) of the very best quality.

Forty-eight colonies came out in the spring of 1914 in splendid condition, strong in bees and with plenty of stores. Things looked very promising for a fine honey year. By fruit bloom the bees had gone to work in earnest, over half of them with supers of empty combs on and eighteen at work in them. My hopes ran high, but alas! what a terrible disappointment was in store for me. I had never seen a case of foul brood of either kind and I wasn't quite sure that I could detect it. One day, while looking over the combs for queen cells, I noticed something not quite right. Some colonies had perhaps a dozen larvae turned up edge-ways, some of them were a brownish color and watery looking, but no foul smell whatever came from them. I was much worried about it and went to reading all my journals and text books and came to the conclusion that it was pickled brood, but still I wasn't quite satisfied.

The end of May I ordered an Italian queen for each colony. I received the first six of them about the last of June. They kept coming in small lots and it was near the middle of August before they had all arrived. This gave the European foul brood, for that's what it proved to be, a good start. Every colony was diseased within a month from the time I first noticed it. I had all the black queens caged for twenty-five days, some of them for five weeks, but they simply wouldn't clean up. I shook a lot of them in new hives and full sheets of foundation and fed them on sugar syrup, but they became diseased about as bad as ever.

Last season was the poorest honey season I have ever known. Had it been a good year, and had the queens reached me in time no doubt I would have been more successful.

Last fall I had eight colonies of Italians free from disease, and thirty-one diseased more or less. The Italians if given a fair chance will clean up all right. In closing I would say to every man having black or hybrid bees, get Italians at the very earliest opportunity. Had I taken the inspector's advice in 1913 I wouldn't have had the loss sustained last year. My honey crop last year was practically nothing.

R. R. VICTOR TIPPETT,
Port Hope, Ont.

Demonstration Work in B. C.

H. Thornber, Assistant Provincial Horticulturist

OWING to the many and varied conditions met with in British Columbia by the fruit grower, a large amount of demonstrational and experimental work has been found necessary. This work has served a double purpose; first, it advances the industry at a more rapid pace than when left to the observations of the fruit grower, and, second, it prevents many costly mistakes from being made by the fruit growers in their attempts to grow orchards.

While the few pioneer orchards located at various points in the province have been of some value in determining the proper varieties for those districts wherein they are located, they have often served to mislead growers as to the exact value of some of the most important varieties. To-day, many mistakes are being discovered regarding varieties, and many of them can be attributed to observations made on the results in these orchards.

Previous to 1900, little authentic information regarding the best varieties for each district had been compiled. There was also a great diversity of opinion regarding the selection of nursery stock; the proper distances for planting; proper methods of pruning; when and how to spray; how to cultivate; and last but not least, practically nothing was known regarding the cost of these various operations. During the past fifteen years, and especially since 1909, much definite information has been collected on these subjects. The origin of the greater portion of this information has been from demonstrations and experiments in old orchards and from the results of the orchards under the supervision of the Government which were called Demonstration Orchards.

These orchards were started in 1911. At present there are sixteen, located at the following points:—Cowichan, Nanaimo, Hammond, Aldergrove, Lower Nicola, Walhachin, Shuswap, Salmon Arm, Willow Point, Rossland, Birchbrook, Waldo, Windermere, New Denver, Wardner and Golden. There is also a small-fruit plantation at Chilliwack which is under management similar to the orchards.

The area of each of these orchards is about five acres, and it is set aside for the use of the Government for five years. The owner agrees to clear and fence, to provide and maintain the irrigation system; to bear the cost of cultivation; furnish all necessary implements; keep records of the cost of each operation, and, if requested, make reports on the progress of the orchard from time to time.

The Government provides the trees, plants and prunes them, and gives instructions, through the district horticulturist, regarding the care of the orchard; and pays any outside expenses in excess of those necessary for the actual management of the orchard. At the expiration of the agreement, the orchard becomes the property of the owner.

These orchards contain the most suitable varieties for the respective districts. As a rule, fillers are used. Some of these orchards are intercropped with small fruits, potatoes or root crops, while others are cultivated during the summer season and seeded to a cover crop in the fall to aid in ripening the trees and to improve the soil. The pruning is done by the local horticulturist in order to demonstrate different systems and to ensure uniformity.

At various times during the year these orchards are used for demonstration work

in spraying, pruning, etc., and the orchard is open to the inspection of the public at all times. The public meetings are arranged through the Farmers' Institute or by the horticulturist in charge. The attendance at these meetings is usually good, and much interest is taken by the neighboring orchardists as well as by the owners.

Other forms of orchard demonstration work are being carried on also. Among these, packing, pruning, spraying, thinning and fertilizing demonstrations and tests are the most important.

The Apple Packing Schools were inaugurated in 1911, when thirteen were held. This number increased to 30 in 1912, and to 41 in 1913. In 1914 the number of classes decreased to 37, and in 1915 only 25 have been requested to date. This decrease does not indicate a decline in the interest taken in packing, but shows that a sufficient number of packers has been produced to handle the bulk of the crop. In 1914 it was estimated that 75 per cent. of the crop was packed by pupils of the Government packing schools. The packing schools consist of twelve 3-hour lessons extending over six days. The minimum number of pupils is 12, and the maximum number allowed is 16 for each school. A fee of \$2.00 is charged for admission.

These schools have been very successful and have been adopted in parts of Australia and Tasmania, as well as in Nova Scotia and Ontario.

Aside from the numerous pruning demonstrations which are held under the direction of the Farmers' Institute in the Demonstration Orchards, and in the orchards of fruit growers, a distinct line of pruning instruction was installed in the spring of 1914. This resulted from the fact that sufficient information regarding pruning could not be given in a single demonstration. These "Pruning Schools," as they are called, were patterned after the Apple Packing Schools, and are conducted by the assistant horticulturists. Briefly, they consist of ten 3-hour lessons extending over five days. A minimum of eight, and a maximum of twelve pupils is allowed for each school. The admission fee is \$1.00 for each student. Last year, 26 pruning schools were held, and this year, at the present writing, over 55 have been applied for, and more applications are coming in every week.

Spraying demonstrations have also been given at various places in the province. These have been divided into two general classes. First, demonstrations have been given under the auspices of the Farmers' Institute, to show how to mix and apply the sprays; and the value of the different nozzles with various sprays. Second, experiments have been made to test the value of the different sprays. The three sprays mainly under consideration were Lime Sulphur, Soluble Sulphur and Bordeaux. These were used last year for Apple and Pear Scab in orchards at Salmon Arm and Harrop. As high as 97 per cent. clean fruit was secured by the proper use of Lime Sulphur. Similar results were secured by Bordeaux, but a considerable amount of russetting was noticed which was not present when Lime Sulphur was used. The Soluble Sulphur gave fair results, but until further tests are made, it cannot be recommended for general use. Other spraying experiments have also been made by the Inspection Branch of the Department of Agriculture, with good results.

One experiment was made in thinning apples. The increase in favor of thinning

was between 130 to 150 per cent. over the unthinned trees. More experiments in thinning will be conducted in the future, and if they give such promising returns as these have in the past, it will become a much more general practice. Fertilizer experiments have also been started, but from the nature of these no results will be published for some time yet.

Transportation Matters

G. E. McIntosh, Transportation Agent for the Ontario Fruit Growers' Association

As the fruit shipping season approaches and with it perhaps unusual difficulties, owing to market conditions, Ontario growers are requested to advise me of any matters which in their opinion should be undertaken to improve transportation service for the coming season. The following information may be of value:

The express merchandise receipt form was recently the subject of discussion before the Board of Railway Commissioners as a result of complaints made by the shipping public. It was stated that the express companies had sought refuge from payment of certain claims behind the wording of sub-section (C) of section 5 of the receipt, which provided that the company would not be liable "for any loss, damage or delay caused.....from conditions beyond its control."

Complainants held that the express companies had taken the position that acts of the railway company occasioning loss, damage or delay were "conditions beyond its (the express company's) control. As the Commission states, the express company engaging to perform the contract of carriage agreed to, has the right to do it in any way it pleases so far as the shipper is concerned, as long as the method adopted does not damage the shipment or cause the shipper loss either by undue delay or for any other cause.

The Commission has ordered that the receipt be amended by substituting for the present protested conditions a phrasing under which the express companies will not be permitted to relieve themselves from liability for acts or default of the railways over whose lines they operate.

Double Charges.

The Commission has also dealt with the question of collection of express charges at destination on prepaid shipments, and has ordered that in future the companies shall firmly affix to every shipment a label which will clearly show whether or not the charges have been prepaid. Shipments composed of two or more packages may be dealt with by affixing a label to one of the packages, providing the label states how many packages are in the shipment.

A complaint was made by W. H. Bunting, of St. Catharines, against an increase by the G. T. R. in the rates on manure in carloads, from Toronto, for Canadian Northern orders that the rate of 3½ cts. per 100 lbs. be disallowed, and the rate of 2½ cts. per 100 lbs. previously in effect be restored, subject to a minimum carload weight of 60,000 lbs.

Loss and Damage Decisions.

A shipper of peaches who should ordinarily have loaded a car in 10 hours took 34 hours to do it, by which time the ice which had filled the bunkers melted so that it would no longer protect the shipment. The carrier receipted for the peaches as in apparent good condition. As soon as the car was loaded, it was taken to a re-icing station. The Commission held, that when the carrier sent the car fully iced to the

shipping point they had fulfilled the duties incumbent upon them, and, if the shipper unnecessarily delayed the car until the ice had melted below the safety point, the carrier cannot be held liable for the results.

The Commission has ruled that a carrier is not entitled to either demurrage or freight charges on a shipment destined to a consignee who has a private sidetrack, until the shipments are actually placed on such track, thus completing the transportation.

It is the duty of a carrier to apprehend that at certain seasons of the year shipments of perishable produce are liable to freeze.

The Carrier Liable.

A carrier is liable for injuries caused by freezing in spite of the fact that the bill of lading contains a notation that the shipper assumes the risk of freezing, where the shipment was delayed four days in transit, as the carrier cannot exempt itself from liabilities through negligence.

A carrier cannot excuse delay in transporting freight on account of shortage of cars and unprecedented amount of business, where it accepts a shipment without notice of those facts to the shipper.

It is firmly established that a common carrier may by special contract limit its liability, at least against all risk but its own negligence or misconduct. The duty of the carrier is to exercise reasonable care and diligence in transportation, to transport in a reasonable time, without unnecessary delay, to prevent so far as is reasonable and practicable any loss or damage which may be occasioned by delays in transit. What is reasonable diligence, where reasonableness is the standard, must depend upon the circumstances of the particular case.

Fruit Inspection Statistics

The following figures indicate the ratio between the number of packages of fruit inspected by the officials of the Dominion Fruit Division in the season of 1914-15, and the total number of packages in the lots inspected. These inspections were made by the staff of Fruit Inspectors, temporary and permanent, numbering about fifty in all. The figures also show the total number of inspections which were made:

Variety.	No. of Lots Inspected.	No. of Pkgs. in Lots Inspected.	No. of Pkgs. Inspected.
1914-15.			
Apples, barrels....	8,926	765,445	59,602
“ boxes, ..	2,769	457,055	36,118
“ baskets ..	191	29,476	3,994
Crab apples, boxes	38	2,443	951
Pears, boxes	894	91,121	9,760
Peaches, boxes ..	735	183,952	10,035
“ baskets ..	147	17,797	2,422
Plums, baskets ...	643	180,154	12,294
Tomatoes, baskets.	305	103,742	12,171
Small fruits, quarts	1,162	1,529,598	151,559
Grapes, baskets ..	244	308,728	22,394

The Chinese Market for Apples

One of the representatives in China of the Canadian Department of Commerce reports that selected apples were recently being sold on the Hankow market under the description “Finest American.” On investigation it was found that these apples were grown in the Okanagan Valley of British Columbia. Other apples available on the Chinese market are imported from the United States, Australia and Japan. Australian apples do not compete with Canadian, as their season is different.

The price of British Columbia apples—Mexican \$12.00 to \$14.00 per case—is pro-

hibitive to general use. Japanese apples of good quality are sold for Mexican \$3.50 to \$5.00 per case. If Canadian apples could be sold for Mexican \$7.00 to \$8.00 per case they would, owing to their superior quality, be in great demand.

Ontario Basket Factories

A second visit has recently been made, by a representative of the Dominion Fruit Branch, to the basket factories of Ontario. At the time of the first inspection—mention of which was made in the June issue of The Canadian Horticulturist—there was a great lack of uniformity in the sizes of packages which were then being made. The manufacturers were shown where alterations and improvements were necessary.

The last inspection showed that practically all fruit packages now being made are of correct dimensions and of strong material. The managers have corrected their previous mistakes and the result is that no discrimination can be shown by growers in favor of any one particular factory. In order that this state of things may continue, frequent inspections will be made by the government throughout the year.

A Well Managed Concern

The general manager of the California Fruit Growers' Exchange claims that the selling costs in the case of fruit dealt with by the exchange are lower proportionately than in the case of any other agricultural product in any part of the world. The actual working expenses of the exchange organization, including office expenses, salaries, legal expenses, the cost of the daily telegraphic service and a share of the expenses of the Citrus Protective League, amounted to 4¼ cents per box, or 1.35 per cent. of the gross sales. To this must be added 1¼ cents per box spent by the exchange in advertising the products which it sells, although this expense is to a large extent an investment made to ensure the sale of future crops. But even if this whole amount be added to the working expenses the selling costs per box amounted to 5¼ cents, and the total selling costs to 2.15 per cent. of the gross sales.

These figures relate to the working expenses of the Central Exchange and the seventy agencies maintained by it. They do not include the expenses of the District Exchanges, which act as intermediary organizations between the growers and the Central Exchange. The average cost of maintaining the District Exchanges amounts to less than one cent per box.

During the year 1913-14, the members of the Exchange purchased through the Fruit Growers' Supply Company—an association which, though it has a separate organization, is in effect a branch of the Exchange—packing material, fertilizers, fungicides, heaters, oil and sundry orchard supplies to the amount of \$3,319,000, an amount which represents an increase of 50 per cent. upon the business done in any previous year.

The directors of the Exchange are faced with the need of finding new markets for their fruit, or increasing the demand in existing markets. By regulating the shipments from California in such a way that each market is supplied strictly according to its needs, the Exchange ensures that consumers in every part of the country have a constant supply of fruit of good quality at reasonable prices. This alone increases the demand, and the per capita consumption of oranges and lemons in the United States has in fact increased enormously during the last ten years. But a still greater increase must take place if

Douglas Gardens

OAKVILLE, ONT.

We have a surplus stock of some sorts of Irises growing in our Gardens. We offer this surplus, some 15,000 plants in 28 varieties at much reduced prices for all orders received in the month of August next—August is the best time for planting most Irises.

The following are examples of the reduction in prices taken from the special sale list which will be sent to all names on our mailing list and to others on application, viz:—

Mme. Chereau, each 10c, 10 for 75c, 100 \$6.00.

Purple King, each 15c, 10 for \$1.25.

Wyomissing, each 50c, 10 for \$4.50.

This list embraces such fine modern Irises as Juniata, King of Iris, Lohengrin, Mrs. G. Reuthe, Princess Victoria Louise, Rhein Nixe, Wallhalla, etc.

This sale applies to orders received in the month of August only. Normal prices will prevail after 31st August.

Send name and address for a copy of this Iris list and the Paeony list for 1915.

JOHN CAVERS

Peerless Climax Fruit Baskets



Heaviest, Strongest and Best

In the market. Especially suitable for long distance shipping.

Protect your requirements by ordering EARLY

Canada
Wood Products Co.
St. Thomas, Ont.

CARNIOLANS Only



Carniolans build up fast in the spring. Are very prolific, very gentle, cap honey very white, enter comb honey supers readily, gather almost no propolis, and are the best of honey gatherers.

Untested Queens, \$1 each, \$9 dozen; Tested Queens, \$1.50 each, \$12 dozen; 1 lb. package, with Queen, \$2.50.

Delivery after May 15, depending on the season somewhat.

ALBERT G. HANN

CLINTON, N.J.

U.S.A.

BRED IN CANADA, leather colored Italian Queens. Untested, \$1.00 each; \$10.00 a doz.; in lots of 25 or more, 75c each. Warranted purely mated Queens, \$1.10 each, or \$12.00 a dozen; tested Queens, \$1.50 each; Breeding Queens, \$5.00 each. I guarantee you a square deal.

JOHN A. MCKINNON

St. Eugene

Ont.

When good queens are wanted I have the goods. Pure Italians from imported mothers. Also pure Carniolans and Caucasians from imported mothers. 75c each, \$8.00 per dozen. No disease.

GRANT ANDERSON

Riv Handa

Texas

Queens



"Reared in Canada"
from the best Italian stock

ONE DOLLAR EACH

Six for Five Dollars

P. TEMPLE

438 Gladstone Ave., TORONTO, ONT.

Leather Colored Italian Queens

Bred for Honey Production

Queens are reared from select mothers, record breakers, taken from our honey producing apiaries of over 1,000 colonies. We guarantee our queens to live as long and to give as good or better satisfaction than any of the so-called "Hardy, northern bred," high priced queens. We invite closest comparison with the best.

Untested queens, 60c each, \$6.00 per dozen
Warranted purely mated, 75c each, \$8.00 per dozen.

Tested queens, \$1.10 each, \$12.00 per dozen.
Safe arrival and satisfaction guaranteed.
No disease.

BROWN & BERRY, Hayneville, Ala.

Manitoba

W. C. McKillican, B.S.A., Superintenden, Brandon
Experimental Farm

Some of the hardest varieties of standard apples are being tested at the Brandon Experimental Farm, but the situation does not seem favorable and the results up to the present are not encouraging. Good results have been obtained with cross-bred varieties originated by the late Dr. Wm. Saunders who was for many years Director of the Experimental Farms. These were produced by crossing standard varieties with (*Pyrus baccata*), a native of Siberia, very hardy but producing small astringent fruit. Some of the hybrids originating from these crosses have proved to be of great value for prairie conditions. Many trees of this type fruit abundantly at Brandon each year. The fruit is about the size of an ordinary crab apple and makes delicious preserves and jellies.

A new line of experimental work has been taken up in recent years in the hope of developing hardy varieties of standard size and quality. Thousands of seedlings of the hardest standard apples are being grown in nursery rows. At present about 11,000 of these seedlings are under observation at Brandon. It is hoped that greater variation and consequently greater opportunities for selection will be gained by the use of large numbers. These seedlings will first be rigorously selected for hardiness, then the most hardy will be brought to the fruitage stage, while the nursery rows will be filled again with fresh thousands of seedlings. It is hoped in this way that out of the many thousands of seedlings with the great variations that seedlings show, that a variety may be found that will be hardy under the most rigorous conditions, and yet bear fruit of good size and quality.

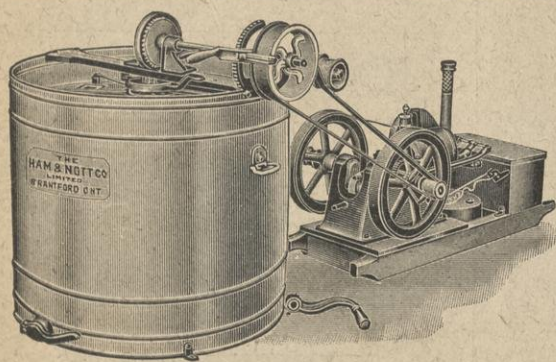
Plums.

The different varieties of plums that are recommended for western conditions such as Cheney, Aitken and the numerous varieties originated by Professor Hansen of South Dakota, are being tried at Brandon. These all succeed well, but none are so satisfactory on the whole as some of the best strains of Manitoba Native plum. One of the best and earliest of the latter has been called the Major plum. Further work is being done in developing and isolating improved strains of the native plum.

Bush Fruits.

Currants, gooseberries and raspberries all succeed well. Experiments are being conducted in testing out the different varieties of bush fruits. Different methods of mulching and winter protection are also being tried.

Strawberries have been grown with great success for many years. Experiments with varieties and winter protection are being conducted.



Power Honey Extractors

Friction drive or with special cut gears, smooth and easy running. Speed control is perfect and simple. If you are thinking of purchasing a power outfit, write us at once.

The Ham & Nott Co., Ltd.
BRANTFORD, ONT.

THOROUGHbred QUEENS

Three-band and Golden Italians my stock. I secured the best stock obtainable, unexcelled for honey gathering and very gentle. No better queens to be had, no matter what price you pay.

	May 1st to July 1st.			July 1st to Nov. 1st.		
	1	6	12	1	6	12
Untested	\$1.00	\$ 5.00	\$ 9.00	\$.75	\$ 4.00	\$ 7.75
Select, untested	1.25	6.00	11.00	1.00	5.00	9.00
Tested	1.50	7.50	12.00	1.25	6.00	10.00
Select, tested	2.00	10.75	18.00	1.75	9.00	16.00
Breeding queens	5.00					
Nuclei—1 frame	1.50	8.00	15.00			
Nuclei—2 frame	2.50	12.00	22.00			

When ordering Nuclei select the queen you wish from the above list and add price to same. No foul brood or disease. Safe arrival and satisfaction guaranteed to all in the United States and Canada. Address

L. MORRISON, R. M. D. No. 1, Argenta, Ark., U.S.A.

The Beekeepers' Review

The Beekeepers' Review is now just beginning to publish those valuable papers read at the National Beekeepers' Convention at Denver last February. If you were to begin your subscription with the May number none would be missed. We will be pleased to receive your subscription for the last eight months of the year for an even 50c, post-paid to Canadian subscribers. In remitting, say begin with the May number, so as to miss none of those valuable papers. Those papers are only a part of the valuable material we have on hand that will appear during this year, so we are very sure you will receive your money's worth by subscribing for the Review at this time. The Review is Owned and Published by the Honey Producers Themselves, consequently it is published wholly to our interest. Kindly remit by postal note, not stamps, as we cannot use Canadian stamps. Address, with remittance, The Beekeepers' Review, Northstar, Mich.

The Beekeepers' Review, Northstar, Michigan

LAST CHANCE

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Get our import Bulb catalogue at once. Orders must be in by July 10th at the latest.

Morgan's Supply House

London, Ont.

Bee supply catalogue free.

LEATHER COLOR ITALIAN QUEENS

Bred for Business

Untested, \$1.00 each, \$9.00 per dozen.

No disease.

A. E. CRANDALL & SON, Berlin, Conn.

QUICK SHIPMENT OF QUEENS

of 3-band stock, reared for honey gathering qualities. Untested, June \$1.00, later 75c. Tested \$1.50, select tested \$2.00. Send your orders now and be assured of having queens when you want them.

R. A. Shults, Cosby, Tenn.

Northern Bred Italian Queens

Guaranteed as good as can be had. Leaflet, "How to Introduce Queens," 15c; "How to Increase," 15c; both, 25c.

E. E. MOTT, GLENWOOD, MICH.

THREE BANDED ITALIANS

Twenty years' selection and breeding brings Murry's queens above the average. Untested, 75c; 6, \$4.00; 12, \$7.50. Tested, \$1.00; 6, \$5.50; 12, \$10.00. Safe arrival and satisfaction guaranteed.

H. D. MURRY, MATHIS, TEXAS.

BEES FOR SALE

Italian Queens and Bees, lb., \$2.25; 5 lbs., \$10.50; 1-L Frame, \$2.00; 2 Fr. Nuc., \$3.00; all with Queens. Italian Queens, 75c each; 6 for \$4.00. Complete catalogue free.

THE DEROT TAYLOR CO.

BOX C - NEWARK, N.Y., U.S.A.

YOUR OPPORTUNITY

to start in bees, make up winter losses, and increase your apiary cheaply by placing an order for a pound package of bees. Price, including a choice young Italian queen and full directions how to handle, \$2.50; six for \$13.00.

Choice young Italian queens, each 75c, six \$4.00, 25 for \$15.00. Satisfaction guaranteed. Reference, DuBois National Bank, DuBois, Pa. J. B. HOLLOPETER, Box 156, Pentz, Pa.

MILLER'S STRAIN ITALIAN QUEENS

By return mail or money refunded; bred from best red clover strains in United States, in full colonies, from my superior breeders; northern bred for business, long tongued, three-banded, gentle, winter well, hustlers. Not inclined to swarm; roll honey in. One untested, 75c; 1 select untested, \$1.00; 6 untested, \$4.00; 6 select untested, \$5.00; 12 untested, \$7.50; 12 select untested, \$9.00. A specialist of 18 years' experience. Safe arrival and satisfaction guaranteed.

I. F. MILLER, Brockville, Pa. U.S.A.

Queens of MOORE'S STRAIN of Italians PRODUCE WORKERS

That fill the super quick With honey nice and thick.

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc. Untested queens, \$1.00; six, \$5.00; 12, \$9.00. Select untested, \$1.25; six, \$6.00; 12, \$11.00. Safe arrival and satisfaction guaranteed. Circular free. I am now filling orders by return mail.

J. P. MOORE,

Queen-breeder. Route 1, MORGAN, KY.

The Root Canadian House

185 Wright Ave. TORONTO, ONT.

Quality counts. Try our Queens; three banded, golden Carniolans or Caucasian, from best U.S.A. breeders; also from our own yards. Everything in Bee Supplies, Root's Goods; also "Made in Canada" Bee Journals and Books. Catalogue Free.

Honey Pails & 60lb. Cans. Glassware & Shipping Cases. Bees. Queens. Honey. Wax.

CHAS. E. HOPPER & CO.

126 Simcoe St., TORONTO, ONT.

Bees and Queens

Ours are choice stock and Northern Bred; are more desirable for Canadian Beekeepers. Ask for Catalogue B.

Bee Supplies—We sell Root's goods only. Let us quote you prices on what you need. Ask for Catalogue A.

Berry Baskets, ask for Catalogue C.

M. H. HUNT & SON

LANSING - MICHIGAN

LEININGER'S STRAIN OF ITALIANS

have a record of 30 years. Our experience in the queen-rearing business dates back over 30 years. They are excellent honey gatherers and gentle to handle. We will sell queens from this famous strain during July and August at the following prices: Tested queens (one year old), \$1.00 each; 6, \$5.00. Untested queens, 75c each; 6, \$4.50. Satisfaction guaranteed.

Fred Leininger & Son, Delphos, Ohio.

PRICE LIST

of

Three Banded Red Clover Italian Queens

Bred from Tested Stock.

Untested Queens, \$1 each,

\$5 for six.

Selected untested, \$1.25 each,

\$7 for six.

Tested Selected Guaranteed

Queens, \$2 each.

Cash With Order.

W. R. STIRLING

Box 214 Ridgetown, Ont.



Beekeepers

Everything in the line of bee supplies. Weed process comb foundation, Bingham smokers, Porter bee escapes, improved model hives, etc.

Bees by the pound package. The best way to make increase. Hardy Canadian-bred Italian stock; sure to please. Full instructions for handling with each shipment.

Prices, including an untested Italian Queen:

	June.	July 1 to Sept. 15.
1-lb. package	\$3.50	\$2.50
2-lb. package	4.50	3.50
3-lb. package	5.50	4.50

Tested Queen included with above, 50c extra. Select tested, \$1.00 extra, or best breeding Queen, \$4.00 each extra. Best Italian Queens, untested \$1.00; tested Queens, \$1.50, and select tested, \$2.00 each. Usual discounts by dozen or more.

Write us if you have any Beeswax to offer. Catalogue upon application.

F. W. JONES, Bedford, Quebec

NOTICE TO QUEEN BREEDERS

If you want to sell Queens and Bees advertise in the AMERICAN BEE JOURNAL. Read what some of our advertisers have to say about the pulling power of our advertising pages.

We have advertised in the American Bee Journal for thirty years. Have always found it a good advertising medium.—J. W. K. Shaw Co., Loreauville, La.

My advertisement brought all the orders I wished for. In fact, more than I was able to supply—quite a number of orders had to be returned.—J. A. Simmons, Sabinal, Texas.

The Reasons are self-evident—a good bee paper is taken by live and wide-awake beekeepers, and these are the kind that are always in the market for good bees and good Queens.

Rates on space are not high. Display at 15c a line, or \$2.10 per inch. Classified, 15c a line.

Send in your order with copy to-day and get rid of your surplus Queens.

AMERICAN BEE JOURNAL, - Hamilton, Ill.

GOLDEN ITALIAN QUEENS

Reared from superior mothers, mated with select golden drones, 3½ miles from three-band apiary. These queens are large, vigorous and prolific; the bees gentle and hustlers, and are noted throughout the U. S. as a disease-resisting strain. Purity of mating, safe arrival (U. S. and Canada), and satisfaction guaranteed.

QUEENS.	1	6	12
Untested	\$.75	\$ 4.00	\$ 7.50
Select untested	1.00	5.00	9.00
Tested	1.50	8.00	15.00
Select tested	2.00	10.00	18.00

After July 1st, \$60.00 per 100.

Breeders, \$5.00 to \$25.00.

BEN. G. DAVIS, - Spring Hill, Tenn.

THE COMMISSION MAN

Under-noted are Canadian and British firms wishing consignments of fruit and vegetables. Correspondence is solicited.

NICHOLSON & DEMPSTER

88 Colborne St., Toronto, Ont.

Receivers and shippers of local and carloads lots Potatoes, Apples, and Mixed Vegetables.

HERBERT PETERS

88 Front St. E., Toronto, Ont.

Wholesale Fruit and Produce

See advertisement on page vii.

H. J. ASH

44-46 Church St.

TORONTO - ONTARIO

Consignments of fruit and vegetables solicited. We give personal, consistent and reliable attention to every consignment. Shipping stamps furnished on request.

WANTED — Consignments of tomatoes, peaches, cherries, grapes, and all kinds of fruit and basket apples, also carlot apples. Centrally located; convenient to all car tracks.

LAING BROS.

Wholesale Fruit Merchants

307-309 Elgin Ave. : Winnipeg, Man.

SIMONS FRUIT CO.

David L. Dick, Manager

27 CHURCH ST. : TORONTO, ONT.

Representatives:

Simons, Shuttleworth & Co.
Liverpool and Manchester.
Simons, Jacobs & Co. Garcia, Jacobs & Co.
Glasgow, Scotland London, England.
Receivers of Apples and Pears.

The Oldest
Commission House
in Toronto

McWILLIAMS & EVERIST

Send your
Consignments.

This space costs
\$1.40 or 5s. 9d. per insertion

Order it now for the next
5 months

ANNAPOLIS VALLEY NOTES.

Manning Ellis.

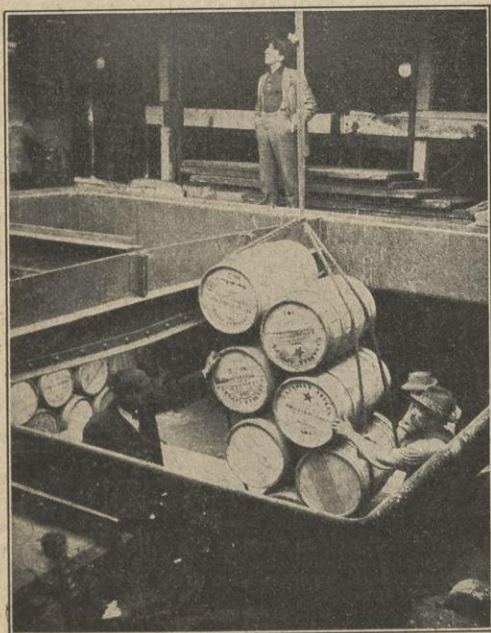
Never did the orchards of the Valley show more abundant bloom than this year and the weather on the whole has been favorable for pollenization. Early varieties especially seem to be setting well and from present prospects we should harvest sixty per cent. more apples than last year.

Black spot is showing on the leaves of unsprayed orchards and with perfect weather to date for its development it may be a serious factor in determining the number of barrels of marketable apples that will be gathered in the fall. To date there are no serious insects pests more numerous than usual. The bud moth showed up strong early in the season, but the two sprays before the blossoms opened pretty well wiped them out. They have done a good deal of damage on young trees, however, where spraying is not practised.

Strawberries are setting well. We will have the best crop for some years. There was no frost anywhere and the rains have kept the plants growing vigorously. Plums promise half a crop. Other small fruits are all that could be desired.

The only people with long faces in the Valley this season are the tree agents and the nurserymen. Practically no commercial orchards are being planted and this after only two or three years when the demand for trees seemed unlimited. Nurserymen who set heavily the past two years are left with a serious loss as this crop must be sold when ready and no one can tell when the grafts are set what the demand will be when the trees are ready to sell. The bugbear of over-production seems to be in every one's mind and it will probably be some time before the planting of apple trees will be taken up strongly again.

CHOICE APPLE BARREL STOCK



Staves, Hoops,
Heading, Head Liners
Coopers' Nails

For Packers who are unable to get barrels made, we can arrange to furnish them with Apple Barrels at lowest prices for first-class Barrels.

THE SUTHERLAND-INNES CO., Ltd.

CHATHAM ONTARIO

Central Annapolis Valley

Eunice Buchanan

The spraying of orchards seems to be undergoing a phase of transition in the Berwick vicinity. Many are using soluble sulphur just after the buds burst, while others use it entirely on a portion of the orchard only. There have been cases of leaf burning from this spray, probably due to using it too strong. A few orchardists have gone back to the Bordeaux mixture, while the majority continue to use lime-sulphur.

Aphis have made their appearance in some orchards, particularly on the Blenhiems. Blossoming was late; the Gravenstiens opened on June 3rd. Later the weather was ideal for the flight of insects and pollenization.

On May 16 we had a severe frost, but vegetation was too backward to be affected. On May 27th there was a snow storm and our last frosts (we hope) occurred on May 29th and June 2nd, but they were so slight that only the tender shoots on wild plants in low lying places were hurt, and as far as we can learn no serious damage was done. Now that the anniversary of last year's severe frost is past, June 4th, people are beginning to breathe freely; never before has there been such promise for an enormous apple crop. Cherry blossom is heavy, but plums are lighter. Wild strawberries, usually the first to suffer from frost, have an abundance of perfect blooms.

Prevention of damage by frost with fire pots is as yet in the experimental stage here. On the night of June 2nd Mr. S. B. Chute had a block of orchard protected with them. Mr. Chute says that by putting one hundred pots to the acre the temperature can be raised eight degrees; but he thinks that forty pots to the acre would be sufficient in a favorable location. The pots are made locally, costing eight cents each. Crude oil is used, one gallon to each pot, costing eight cents per gallon, or with labor ten dollars (\$10) per acre.

Ontario Horticultural Exhibition

The directors of the Ontario Horticultural Exhibition are anticipating that it will be possible to hold the exhibition this year as usual. The only thing which may interfere is the difficulty of obtaining a suitable building. Last year's exhibition had to be post-

HANDIEST IMPLEMENT YOU CAN HAVE

You'll find a hundred uses for the Bissell Steel Stone Boat. Every Fruit Grower needs one. Made in several styles and sizes. Stiff, durable, unbreakable.

T. E. BISSELL Company Limited, ELORA, ONT.

Write
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to-day



Landscape Gardening



A course for Gardeners, Florists and Home-makers, taught by Prof. Beal, of Cornell University.

Progressive Florists recognize the growing importance of a knowledge of Landscape art.

We also offer a practical course in Floriculture, including Greenhouse Construction and Management.

Send for Catalogue. Address

THE HOME CORRESPONDENCE SCHOOL
DEPT. C.F. - SPRINGFIELD, MASS.



THE SUGAR THAT GIVES PERFECT PRESERVING RESULTS

Remember, that Sugar plays a very important part in your Preserving.

On its purity and even granulation, depend the success of your Jellies and Jams. This is why it is so important that you demand

LANTIC SUGAR

Insist on having this pure Cane Sugar in original packages, and your preserving success is assured.

Your grocer should have LANTIC SUGAR in 2 and 5 pound cartons, and in 10, 20 and 100 pound bags.

FRUIT JAR LABELS, FREE

Send us the small Red Ball Trademark cut from top end of carton or from 10 or 20 pound bags, and we will send you, free, a Book containing 50 gummed preserving labels for your fruit jars.

**Lantic
Sugar**

Address

Atlantic Sugar Refineries Limited

Dept. E. Montreal



Cabbage Worms Destroyed by Dusting with Hammond's Slug Shot

So used for 30 years. SOLD BY ALL SEED DEALERS.

For pamphlets worth having, write

B. HAMMOND, Fishkill-on-Hudson, New York.

Kelway & Son

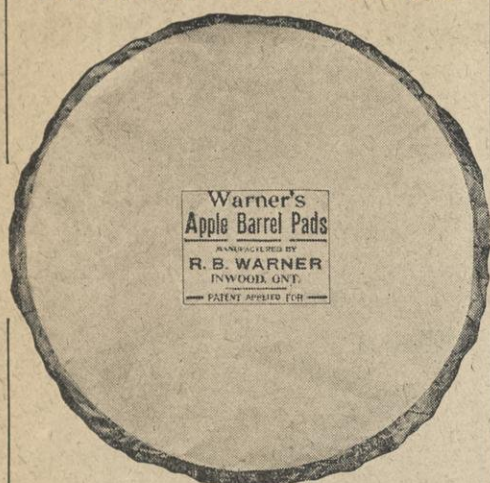
SEED GROWERS and
NURSEYMEN
LANGPORT, ENGLAND

Announce that their MR. H. A. NALDRETT has just arrived for an extended business trip throughout the United States and Canada. Mr. Naldrett's address while in this country will be in care of

Messrs. T. Meadows & Co.

8-10 Bridge Street, Battery Park, New York

Protect Your Fruit



Warner's
Apple Barrel Pads
MANUFACTURED BY
R. B. WARNER
INWOOD, ONT.
PATENT APPLIED FOR

BY USING

WARNER'S APPLE BARREL PADS

A pad placed in each end of the barrel holds the apples firm and absolutely prevents them from being bruised when heading the barrel and shipping.

It costs very little and pays well.

R. B. Warner, Inwood, Ont.

—PRESERVE—

Your Fruit this season with

DOMINION CRYSTALS

A sugar that is absolutely pure and fully guaranteed. If you are buying sugar to feed BEES, be sure to get Dominion Crystals.

Ask your Grocer for it.

DOMINION SUGAR CO., Ltd.

Wallaceburg and Berlin, Ont., Can.



Orders Filled Promptly. Send for Prices.

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

We have a large
stock of all size

FLOWER POTS

FERN OR BULB PANS

$\frac{3}{4}$ AZALEA POTS
and Rimless Pans

poned because the buildings on the Exhibition Grounds, where it was proposed to hold the exhibition, were in use by the militia. It is not certain as yet whether or not any of these buildings will be available this year. At a meeting of the directors, held June 25, the secretary was requested to ascertain if any of the buildings on the Exhibition Grounds could be obtained for the purpose of the exhibition. If it is found that these will not be available, the manager of the exhibition will ascertain if any other building, such as the Arena, can be secured.

In the fruit section this year it is proposed to discontinue offering prizes for barrel exhibits. Prizes for cones of apples will be offered again this year after having been discontinued for a few years. There will be very little, if any, change in the vegetable and flower prizes. It is probable that there will be an especially large exhibit of honey and of good quality.

Mr. Manton suggested that this year the prize winners be asked to contribute their prize money to the funds of the Red Cross Society, as it was proposed to do last year. Action was deferred until the different organizations represented under the management of the exhibition could be consulted on this point.

A feature of the meeting of the directors was the presentation of a handsome leather arm chair to Mr. E. T. Reed, the capable and well-liked manager of the exhibition. The presentation was made by Messrs. Hodgetts and Manton. Words of hearty appreciation of the good work that has been done by Mr. Reed as manager were expressed by all the directors present.

Niagara District

As a result of investigations made by W. A. McCubbin, of the Laboratory of Plant Pathology, at St. Catharines, it has been reported that powdery mildew has appeared in the vicinity of Jordan and Vineland on strawberries. The disease generally is not serious, but owing to favorable weather conditions has assumed considerable importance this year. The Vineland Experiment Station is experimenting with remedies.

The fruit inspectors this year, in accordance with the instructions sent out some time ago by the Dominion Fruit Division, have been watching carefully for shipments of immature fruit and improper packing, and as a result a number of growers have had their shipments returned.

The heavy frost the latter part of May caused more damage than was at first anticipated. Strawberries suffered heavily, as have grapes and the more tender plants and vegetables.

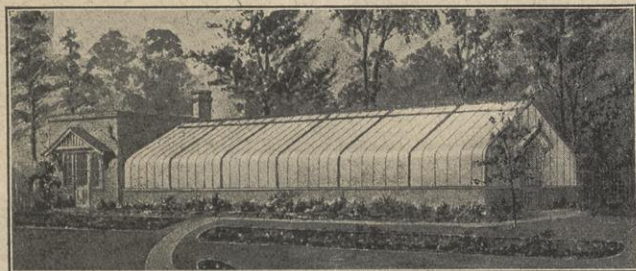
The published report that large orders for jam have been placed by the British Government with Canadian jam manufacturers was welcome news. Most of the factories have been carrying considerable stocks of jams. This condition has not improved the demand from the factories for fruit.

The staff of the Vineland Experiment Station has been increased by the addition of two graduates of the Ontario Agricultural College in the persons of Messrs. A. G. Harris and O. J. Robb. Mr. Robb is succeeding the late Mr. Lund in the conduct of the vegetable department.

Ontario Crop Prospects

Fruit crop prospects in Ontario were described as follows by the Ontario Department of Agriculture, Fruit Division, the last week in June:

East of Toronto, including the counties of



Look Over Your Greenhouses

Methods of greenhouse building have changed radically in the last few years.

Steel construction, throwing less shade, and a single large house in place of several small ones, have resulted in greatly increased efficiency and economy in every way.

Are they large enough to accommodate all your needs? Are they up-to-date and efficient in every way? Would a new house or an overhauling of your old ones save you money in operating or give you better growing facilities?

Every day, almost, brings forth new ideas in greenhouse construction, tending to more economical operation and better growing.

The plant which keeps up with them is the money-making plant. Remember that to-day's expenditure is to-morrow's saving.

Write us for booklet B and further information.

GLASS GARDEN BUILDERS, LIMITED

Makers of Greenhouses, Heating and Ventilating Apparatus, etc.

201 Church Street, Toronto
P. O. Box 1042, Montreal

GILSON Johnny-on the Spot
 A husky trouble chaser. Will pump water, churn, separate cream, run grindstone and do other chores. Lengthen your days by lightening your labors. Write for catalogue. Sizes up to 15 H.P. **\$47.50**
 Gilson Mfg. Company.
 5 York St.
 Guelph, Canada.



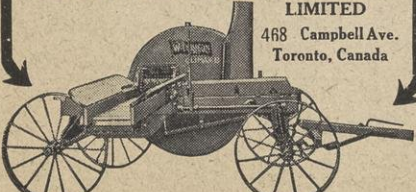
SKINNER THE RAIN MACHINE
 OF IRRIGATION Write for six books on indoor and outdoor irrigation.
 The Skinner Irrigation Co., 233 Water St., Troy, O.

NEW AND RARE SEEDS
 Unique collection. Hundreds of varieties adapted for the Canadian climate. Perennial and perfectly hardy. Own saving. Catalogue free.
Perry's Hardy Plant Farm
 ENFIELD, MIDDLESEX, ENG.

SANDER & SONS
 ST. ALBANS, ENGLAND
ORCHID GROWERS. The Finest Stock in the World
 Catalogue on Application

FRUIT MACHINERY CO.
 INGERSOLL, ONT.
 Manufacturers of Fruit Sprayers and a complete line of
Apple Evaporating Machinery
 Our complete POWER SYSTEMS for evaporating, when installed by our experienced millwrights are the most practical, sanitary and labor saving to be found anywhere. Our prices and terms always reasonable.
 Write for Illustrated Catalogue.

TRADE MARK
Wilkinson Climax B
 REGISTERED
Ensilage and Straw Cutter
 Our "B" machine, built especially for the farmer. A combination machine—it will cut and deliver green corn into the highest silo or dry straw or hay into the mow. 12-inch throat, rolls raise 6 inches and set close to knives—solid, compact cutting surface. Can change cut without stopping. Can be reversed instantly. Direct pneumatic delivery. Knife wheel carries fans. No lodging, everything cut, wheel always in balance. Steel fan case.
 Made in two styles—mounted or unmounted. We also make larger type machine for custom work. Ask your dealer about this well-known machine and write us for new catalog showing all styles.
THE BATEMAN-WILKINSON CO., LIMITED
 468 Campbell Ave.
 Toronto, Canada




What a Million Mothers Avoid

More than a million careful mothers have intuitively known the dangers of poisonous fly destroyers. They have known that such preparations contain arsenic in deadly quantities. They have realized the peril to little children that accompanies the use of fly poisons.

But for those who have not learned of these dangers, we quote from a recent issue of the Child Betterment Magazine, which comments upon 35 cases of children being poisoned last year:

"The danger to children is great, and the danger to adults is by no means inconsiderable."

In the December issue of The Journal of the Michigan State Medical Society, an editorial on the same subject cites 47 cases, and goes on to state:

"Arsenical fly poisons are as dangerous as the phosphorous match. They should be abolished. There are as efficient and more sanitary ways of catching or killing flies. And fly poisons, if used at all, should not be used in homes where there are children, or where children visit."

TANGLEFOOT
 "The Sanitary Fly Destroyer"
 Non-Poisonous

Catches the Germ with the Fly
 Made in Canada by

THE O. & W. THUM CO.

Dept. 271

Walkerville, Ont.

American Address: Grand Rapids, Mich.



Canadian National Exhibition "PATRIOTIC YEAR"

March of
 the Allies

Aug. 28 to Sept. 13

Review of
 the Navy

Mammoth Fireworks Display, War Trophies, captured from the Germans, Bigger, Better, Grand Stand Performance, New Midway Attractions, Model Farm under Cultivation, Canada at a Glance.

Fruit Growers and Shippers

We have opened up a Commission House in Winnipeg and solicit your consignments.

Our books are open for your inspection and we will gladly furnish you with the names of purchasers of your fruit.

Commission - - - 10%

Send us a trial shipment and be convinced.

HYSLOP & SONS, 132 Princess St., Winnipeg, Man.

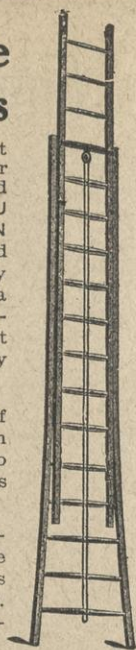
References—any Mercantile Agency, or Bank of Hamilton, Hamilton.

Own These Two Ladders

YOU needed a ladder last winter to get at your roof, take the snow off, and to fix the chimney. YOU NEED LADDERS NOW IN YOUR ORCHARD. You need a long ladder often, every year—and you also need a step-ladder. We make several other varieties not shown, which are especially for Fruit Picking purposes.

Do you know that 75% of the homes in Canadian towns and cities own no ladder? Just carelessness and neglect—not the cost.

Look at the extension ladder at the right. Notice the extension features. It locks automatically at every rung. Light and strong and soundly made, as are all



Stratford Ladders

NOW look at the step-ladder illustrated below—the type of ladder wanted 50 times a year in every home. A strong



ladder, well braced. No better model made.

Go to your hardware dealer and ask him for the "Stratford" model. If he can't or won't supply "Stratford" ladders, communicate with us. Ask for our ladder catalogue E

We are prepared to supply Co-operative Associations with their requirements in ladders.

Stratford Mfg. Co., Ltd.

STRATFORD, ONT.

MERRYWEATHER'S ROSES

are noted throughout the world

They are Cheap; they are True to Name; the Trees are Strong and Sturdy. They defy Competition.

ALL THE NEWEST VARIETIES

Dwarfs, Standards, Climbers, also Fruit Trees, Shrubs, Ornamental Trees

Send for Catalogue, Post Free

Henry Merryweather & Sons

Limited

SOUTHWELL, NOTTS., ENG.

FREE LAND For the SETTLER in NEW ONTARIO

Millions of acres of virgin soil obtainable free and at a nominal cost are calling for cultivation.

Thousands of farmers have responded to the call of this fertile country and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you.

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

H. A. Macdonell

Director of Colonization

Parliament Buildings, TORONTO

HON. JAS. S. DUFF,

Minister of Agriculture
Parliament Bldgs., Toronto

WESTERN FAIR

London's Popular Exhibition

September 10th--18th

Fruit and Flowers a Prominent Part of this Great Exhibition

\$30,000.00 in prizes and attractions. Special programme twice daily. Fireworks every night. New Steel Grand Stand. Single fare over all railways west of Toronto. Prize lists, entry forms, and all information from the Secretary.

EVERYBODY COME

W. J. REID, PRESIDENT.

A. M. HUNT, SECRETARY.

Ontario, Durham, Northumberland and Prince Edward, apples generally promise a fair to good crop, probably 60 to 70 per cent. of that of last year. Duchess and other summer apples are reported a nearly full crop. Fall apples medium, Spies only fair, Greenings fair to good, Baldwins and Russets good. Ben Davis very good. Pears and sour cherries very good.

Halton and Wentworth Counties.—All varieties of apples generally reported a fair to light crop only, with Spies and Kings better than other varieties. Early and late pears are variously reported a failure to a good crop, averaging probably fair, with Keiffers good. Plums and cherries a full crop.

Niagara District.—Elberta peaches are a fair to good crop with other varieties very good. Early and late pears generally light, with the exception of Keiffers, which promise a good crop. Plums probably will be a medium crop only, reports varying greatly from very light to good. Cherries generally do not promise as big a crop as last year. Frost also is reported to have caused considerable damage to cherries and plums, many growers reporting a heavy drop of fruit. Currants, gooseberries, raspberries and blackberries give promise of a good crop, though considerable winter killing of raspberry canes is reported. Grapes, especially back from the lake and in low places, suffered considerably from the frost of May 27th. Probably the total crop will be affected 25 per cent. or more.

Fruit generally through the Niagara District is reported looking well, but not growing very much at the time the reports were sent in, owing to continued cold weather, many growers looking for a heavy drop of fruit.

Norfolk.—All varieties of apples give promise of a light to fair crop only. Pears are a fair crop.

Middlesex reports heavy damage from frost of all varieties of fruit, most correspondents stating that the fruit crop is practically ruined, with the possible exception of Spies, which were hardly in bloom at the time of the frost. Fruit prospects were fair up until the time of frost.

Lambton County suffered severely in many parts from the frost, especially orchards on low-lying lands. Generally speaking, the Lambton apple crop will be light, though Kings and Russets are fair to good. Peaches on low land are also severely frosted. Plums are a medium crop. Pears light.

Huron, Grey, Bruce and Simcoe report a fair to light crop of apples, the frost doing severe damage in many sections, some reports stating that the crop was practically ruined.

Canning factories generally seem to be offering prices if anything a little below those of last year. Prices reported for strawberries range from \$1.50 to \$1.60 per 24-qt. crate; for raspberries, \$1.60 to \$1.68.

British Columbia

A conference was held recently between the managers of the fruit shipping associations of the Okanagan Valley and Mr. W. B. Lanigan, Assistant Freight Traffic Manager of the C.P.R. Following this conference it was announced that substantial reductions would be made in the rates on car-load lots of fruit and vegetables between Okanagan points and Vancouver. The new rate on apples, soft fruits and vegetables will be 30c a 100 pounds, as against a former rate of 40c on apples and 43c on soft fruits. A crate of peaches can be shipped to the coast for 6c and a box of apples for 13½c. Favorable through rates to points served by the

HONEY CONTAINERS

If you are in the honey business, you will find it in every way wise to have attractive containers. Especially should you have a container bearing your own name or brand. In this way you build up a preference for your honey that will express itself in repeat orders year after year. Send for our

It will show you the possibilities in the direction of a container of your own. It will also give you prices and suggestions. But remember this—you ought not to postpone the placing of your order.

Illustrated Catalogue



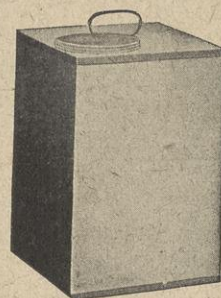
Your name printed free
in 100 lots assorted
sizes

Every year we get very crowded with hurry-up orders. This means delays and disappointments.

Let us make up your order now. Containers won't cost less later on. Be ahead, not behind, in your selling plans for 1915.

Macdonald Mfg. Co. Ltd.

Cor. Spadina Ave. and Richmond St. - TORONTO



CHINESE SACRED LILIES

DELIVERIES MAY DISAPPOINT

unless you arrange now for your supply of

EARLY BULBS

Send us your list of requirements and we will make you special prices on:

Roman Hyacinths
Paper White Narcissi
Freesias
Chinese Sacred Lilies

Lilium Harrisii
" Candidum
" Formosum
" Giganteum

And Dutch Bulbs in variety.

The demand for Perennial Plants is increasing yearly. Sow at once and get a good line on next spring; our new season's supply of seed of Hollyhock, Delphinium, Foxglove, Perennial Poppy, Candytuft, etc., is now to hand, and we solicit your orders.

STEELE, BRIGGS SEED COMPANY LIMITED

Hamilton, Ont. Toronto, Ont. Winnipeg, Man.

CLASSIFIED ADVERTISEMENTS

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

REAL ESTATE

ALL KINDS OF FARMS—Fruits farms a specialty. W. B. Calder, Grimsby.

NIAGARA DISTRICT FRUIT FARMS—Before buying, it will pay you to consult me. I make a specialty of fruit and grain farms. Melvin Gaymon & Co., St. Catharines.

FARMS—All kinds, all sizes, for sale, fruit, stock, grain and dairy farms. Let me know what you are looking for. H. W. Dawson, Brampton, Ont.

BEEES AND QUEENS

GOLDEN AND 3-BAND ITALIAN, also Carniolan queens. Tested, each, \$1.00; 3 to 6, 95c; 6 or more, 85c. Untested, 75c; 3 to 6, 70c; 6 or more, 65c. Bees, per pound, \$1.50. Nuclei, per frame, \$1.50. C. B. Bankston, Buffalo, Leon Co., Texas.

GOLDEN 3-BANDED ITALIANS, also Carniolan queens. Tested, \$1.00 each, 6 or more, 85c each. Untested, 75c each, 6 or more, 65c each. Everything guaranteed to reach you in good shape. No disease. I. N. Bankston, Buffalo, Texas, Box 135.

BEST THREE BANDED ITALIAN QUEENS—June to October, mothers selected from more than 100 colonies and reared in hives running over with bees, according to the latest scientific methods. Every queen a dandy. Satisfaction guaranteed. Each 75c, per dozen \$7.20, per hundred \$50.00. Also bees and honey. J. H. Haughey, Berrien Springs, Mich.

ITALIAN BEES AND QUEENS as advertised on page 159. Catalogue free. Deroy Taylor Co., Newark, N.Y.

FOR SALE—Three banded Italian queens, from the best honey-gathering strains, that are hardy and gentle. Untested queens, 75c; 6, \$4.25; 12, \$8.00. Tested queens, \$1.25; 6, \$7.00; 12, \$13.00. Selected queens, add 25 cts. each to above prices. Breeding queens \$3.00 to \$5.00 each. For queens in larger quantities, write for prices and circulars. Robert B. Spicer, Wharton, N. J.

ITALIAN BEES AND QUEENS, reared for Canadians. Hardy, winter well. Send for circular. Standard bee hives shipped direct from factory in Iowa at \$1.20 each. Stover Apiaries, Mayhew, Miss.

HARDY NORTHERN QUEENS — Moore's strain of Italians. Untested \$1.00 each, 6 for \$5.00. Less in large numbers. P. B. Ramer, Harmony, Minn.

BEEES AND QUEENS—Why not re-queen your bees this fall with the best of Doolittle stock? We offer special prices of 75c each, \$7.20 per dozen, or \$54.00 per hundred. It will pay you to give this stock a trial. Spencer Apiaries Co., Nordhoff, Cal.

ITALIAN QUEENS—For sale at 60c each, \$7.00 per dozen. Safe arrival guaranteed. T. J. Talley, R.R. No. 3, Greenville, Ala.

QUEENS BY RETURN MAIL—Three-band Italians only, which have been bred to a high standard of excellence, to which leading beekeepers in Canada can testify. Tested queens, \$1.00 each; untested, 75c; \$7.00 per dozen. No disease, and satisfaction guaranteed. J. W. K. Shaw & Co., Loreauville, La., U.S.A.

MOORE'S STRAIN AND GOLDEN ITALIAN QUEENS, untested, \$1.00; 6, \$4.50; 12, \$8.00; 50, \$32; 100, \$60. Carniolan Caucasian, untested, \$1.25; 6, \$5.00; 12, \$9.00. Tested, any kind, \$1.25; 6, \$7.00; 12, \$12.00. Choice breeding queens of any kind, \$5.00 each. Circular free. W. H. Rails, Orange, California.

QUEENS OF QUALITY — Our Hand-Moore strain of 3-banded Italians are beautiful and good honey gatherers. Secured 223 sections comb honey from best colony 1914 season. Only drones from selected queens near mating yard. Breed strictly for business. Untested, 75c; half doz., \$4.00; Select, \$1.00. Queens mailed promptly or money returned. W. A. Latshaw Co., Clarion, Mich.

SEEDS AND PLANTS

WOULD LIKE TO EXCHANGE mushroom spawn for bedding stock or cuttings, plants or bulbs. Canadian Mushroom Growers, Limited, Lindsay, Ont.

MISCELLANEOUS

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

last year. The peach crop will be about equal to last year.

Fire Blight has made its appearance in a considerable number of orchards in the Southern Okanagan. Fruit growers have been urged to watch for it and to cut out affected wood immediately upon its appearance.

There is a possibility that the pre-cooling plant in the Summerland District may not be operated this year. The Government has offered to rent it to the fruit growers at a rental equal to six per cent. interest on the capital invested. The growers have claimed that this charge is too high. They have offered to operate it if they can obtain it at what they consider a nominal rate.

One of the pioneer apple exporters of Ontario in the person of Daniel L. Simmons died at Colborne, Ontario, on June 15th. Mr. Simmons is said to have been the first Canadian to ship apples to the English markets, where his D.L.S. brand has been well known for a third of a century. The success of his initial shipments encouraged a greater production of apples in Ontario.

Implements for Orchard and Vineyard



Orchard Disc Harrows

REVERSIBLE

To throw the dirt to or from the trees or vines.

ADJUSTABLE

Gangs can be adjusted as required. Extension can be furnished for working under branches.

Cultivators

A great variety—for cultivating small fruit—for vineyards—for orchards.

Grape and Berry Hoes, etc.

Spring Tooth Harrows

10, 15, or 17 Teeth

The 10-Tooth size is in one Section and can be furnished with handles for vineyard work when so ordered.

Spraying Outfits

Small outfits on skids—large outfits on wheels.

Vineyard Plows

Both Walking and Riding Plows especially built for orchard and vineyard work.

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SWIFT CURRENT
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EDMONTON

WHITE & CO., Ltd.Church & Front Streets
TORONTO, ONT.JULY
1915

WE are prepared right now to handle all the early fruit you can send us, to the very best advantage to you. Many hundreds of fruit and vegetable growers and farmers are shipping all they have to dispose of regularly to us. Our immense outlet enables us to get you the top prices on all consignments—besides we have a reputation to keep up. We can and

Your banker will know us, so you can ship at once without waiting to write. Shipping stamps will be supplied for the asking.

**WILL SELL
YOUR FRUIT AND VEGETABLES.**

This Beautiful China Tea Set**--FREE**

is offered to every one of our readers at the cost of only a little spare time.



This beautiful Set contains 40 pieces: 1 dozen cups, dozen saucers, dozen plates, 2 cake plates, 1 cream jug and a drag bowl. The set is Bavarian China, nicely decorated, and the shapes are the very latest.

A large order placed with a local wholesale house enables us to offer these sets to you in return for a very small amount of work on your part and without a cent's expense.

If you will send us 5 new yearly subscriptions to The Canadian Horticulturist at \$1.00 each, or 3 new three-year subscriptions at \$2.00 each, we will send you one of these sets at once.

This is a splendid opportunity for you to get a Tea Set **FREE**. Write us to-day.

The Horticultural Publishing Co.

LTD.

PETERBORO, ONT.



Branch Warehouses:
Sudbury, North Bay,
Cobalt, Cochrane and
Porcupine

Send for
Shipping Stamp

Fruit and Vegetables Solicited**WE GET YOU BEST PRICES**

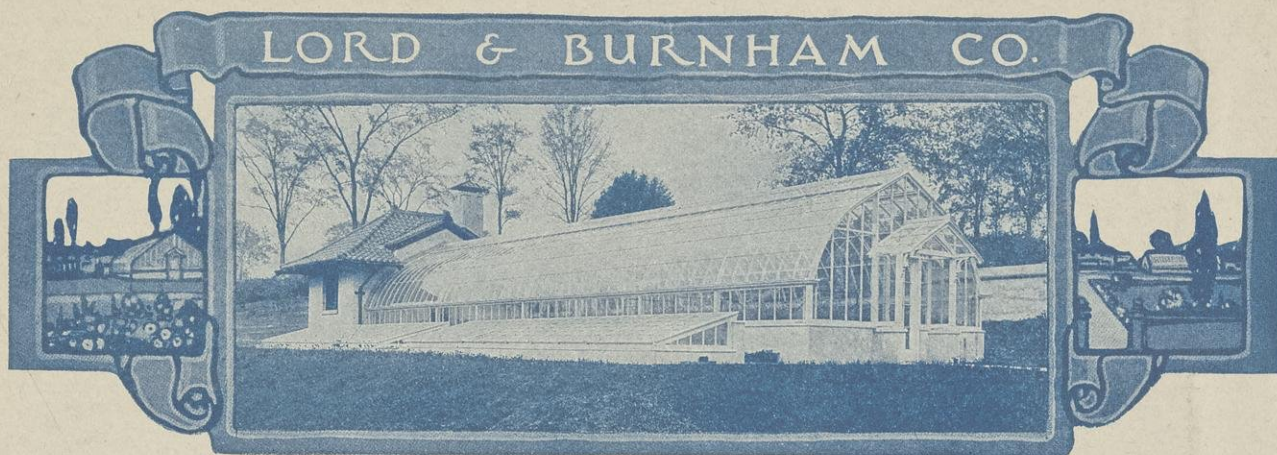
OUR facilities enable us to realize top prices at all times for your fruit, vegetables or general produce. Aside from our large connection on the Toronto market, we have established branch warehouses with competent men in charge at Sudbury, North Bay, Cobalt, Cochrane and Porcupine. In time of congestion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

H. PETERS

88 Front St. East, Toronto

References: The Canadian Bank of Commerce,
(Market Branch) and
Commercial Agencies





How is it That You Have no Greenhouse?

THAT they are in the luxury class has long ago been exploded; so that surely cannot be the reason.

Perhaps you think it requires a skilled gardener to run it and you don't know where to find such a man.

You can promptly set aside that objection; because we are constantly in communication with good gardeners all over the country; and without doubt we could put you in touch with just the man for your needs.

Mayhap you don't have a greenhouse because you think its construction is so out of the usual that

you will have all kinds of trouble and bother in its building. But once again you are mistaken, because we will, if you wish, do every scrap of the work for you; from the turning of the sod, to the turning on of the heat all ready for your flowers.

You hold us responsible for everything.

It's as easy as buying the fully equipped automobile of these days.

Why don't you let us give you a price on a house like this one?

If you want to see others, you are heartily welcome to our Two G's Booklet, Glass Gardens—A Peep Into Their Delights.



Interior of Follage Plant House which we erected at Ottawa for Mr. D. L. MacLaurin.

Lord & Burnham Co. *Limited of Canada*

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