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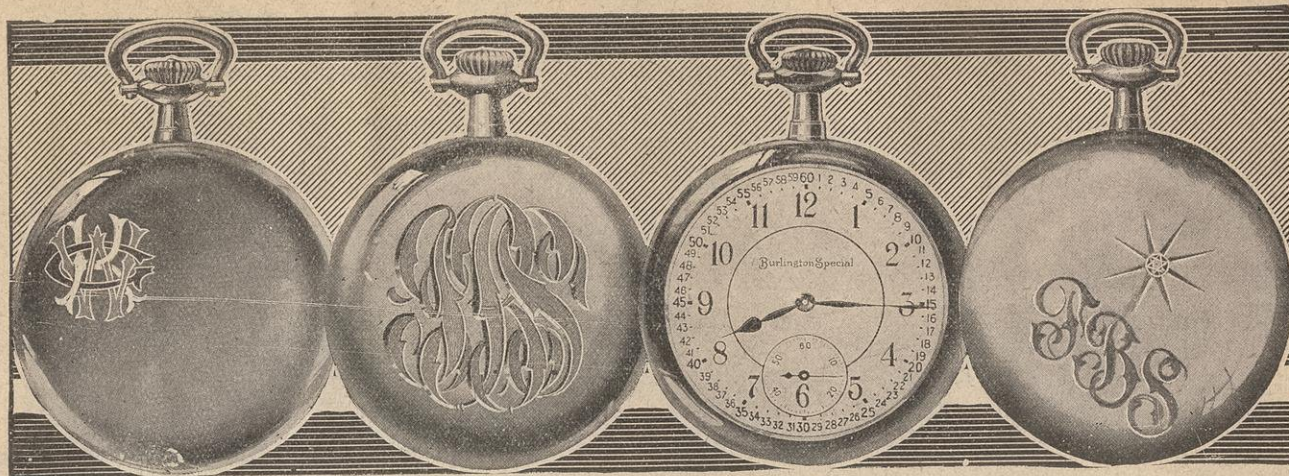
THE CANADIAN HORTICULTURIST & BEEKEEPER

VOLUME 37. No 1
\$1.00 A YEAR

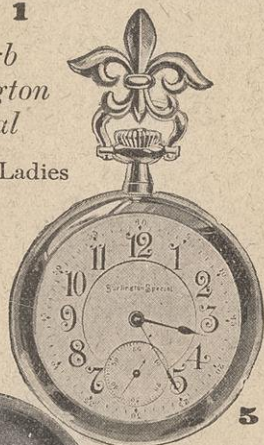
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JANUARY, 1914



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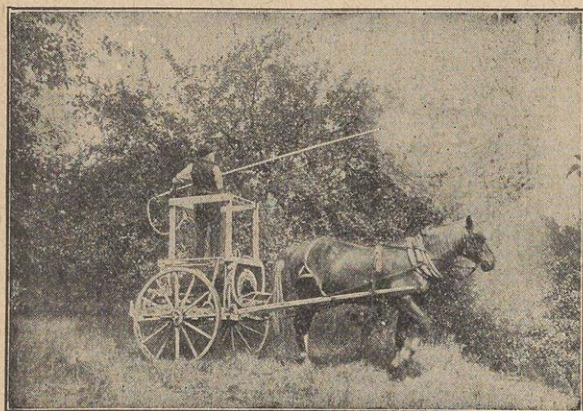
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The Canadian Horticulturist

Regular Edition

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The Canadian Horticulturist

Vol. XXXVII

JANUARY, 1914

No. 1

The Apple Scab--How the Fungus Spreads*

L. Caesar, Provincial Entomologist, Ontario

APPLE scab, or Fungus as it is sometimes called, is by far the most destructive apple disease found in Ontario. It occurs in every part of the province where the apple grows. It is not the same disease as the Pear Scab, so common on Flemish Beauty and some other varieties of pears, but is very closely related. Its presence is of course most familiar to us in the form of the black spots on the fruit, the skin of the apple always being destroyed beneath these spots.

It attacks the leaves just about as readily as the fruit. This fact is perhaps not so well known to fruit growers. On the leaves it causes at first small nearly circular areas about one-fourth of an inch in diameter, and of an olive color. After a while the affected parts often become somewhat elevated making the surface of the leaf irregular or more or less crinkled. Before long these spots die. Sometimes there are numerous spots on the leaves. I have seen leaves of crab apple trees so badly attacked on blade and petiole or stem that most of them fall off by about the first of July.

*Extract from an address delivered at the recent annual convention of the Ontario Fruit Growers' Association.

A fresh set soon took their place. Occasionally but not ordinarily the tender twigs themselves are attacked.

LOSS CAUSED BY THE DISEASE

Loss comes in the following ways:

First: Scabby fruit must be rejected, as culls at any rate can never go as number one.

Second: In moist warm autumns the scabby areas on apples in a barrel will soon become attacked by a whitish or pinkish mould, known as pink rot. This makes the apple not only unsightly but unmarketable. Greenings are especially subject to the rot. Even apart from this disease scabby apples will not keep so well as clean apples.

Third: The scab fungus commonly attacks the stems of the fruit while it is still small and causes large numbers to fall. Sometimes it is evidently in a large degree responsible for the failure of a crop.

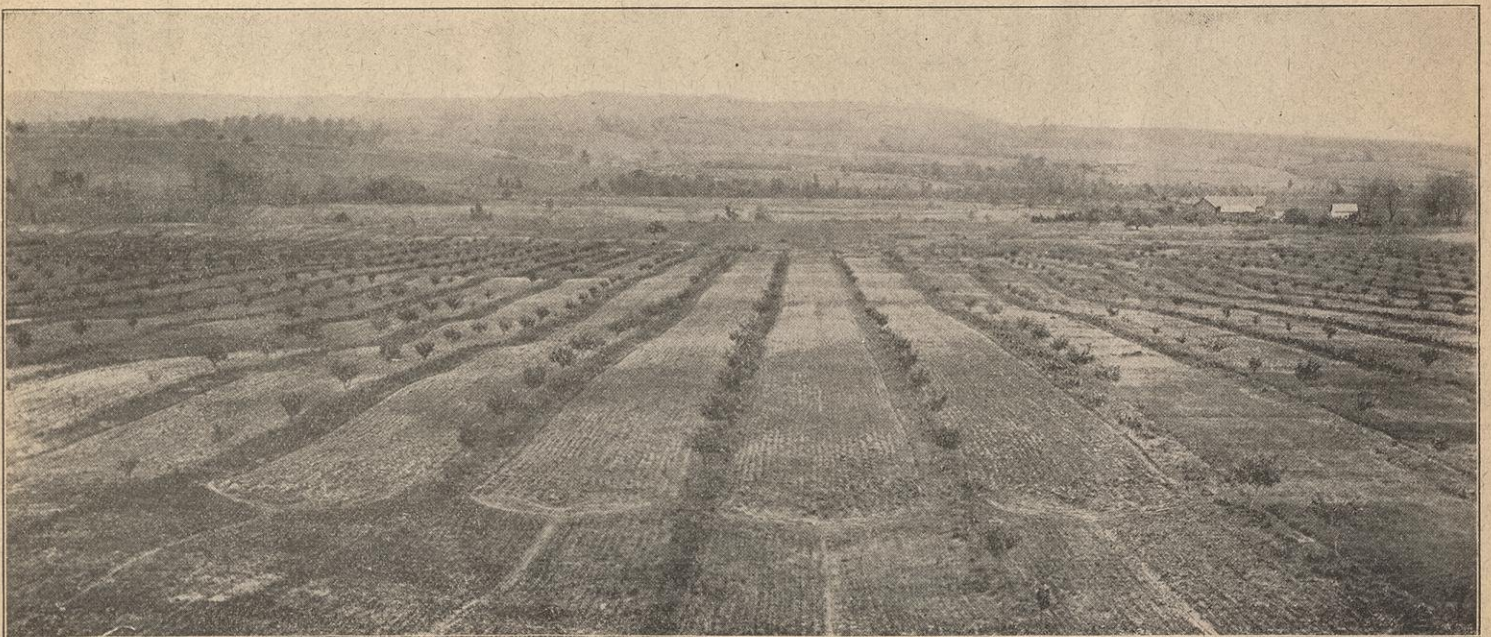
Fourth: By attacking the leaves and killing areas on these it not only interferes with the power of a tree to manufacture food (the food of a tree is manufactured chiefly in the green leaves) but also permits spray injury around the areas where the protecting skin has

been destroyed. Consequently the vigor of a tree may be greatly lessened by these combined injuries to the leaves. The following year the chances of a good crop are, therefore, greatly lessened through the failure of a tree to form fruit buds. This is one of the reasons why well sprayed orchards regularly yield larger crops than unsprayed and are healthier unless injured by over cultivation or over fertilizing and consequent winter injury.

LIFE HISTORY OF THE FUNGUS

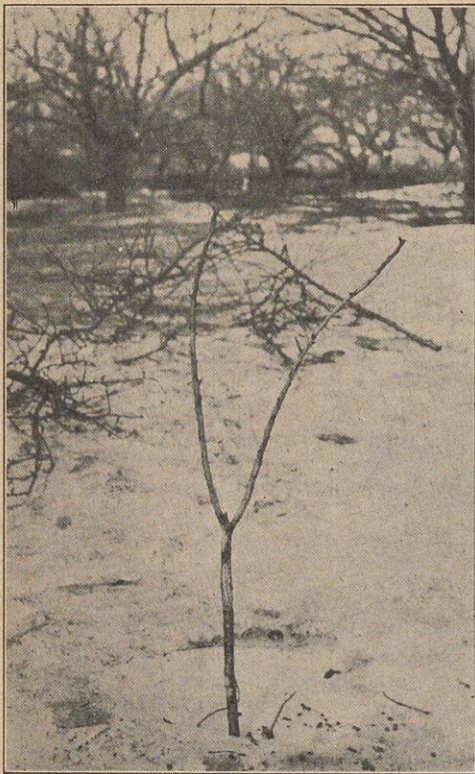
The fungus which causes apple scab is a very small microscopic plant which unlike green plants cannot manufacture its own food but feeds entirely upon other plants, or in other words is a parasite. It passes the winter almost entirely upon the old diseased dead leaves on the ground beneath the tree or wherever they may be blown by the wind. Occasionally it may also winter on the twigs. In the spring, about the time the leaves are expanding, the diseased spots on the dead leaves by a peculiar device begin to shoot out into the air in moist weather tiny little spores which are carried by the wind especially to the lower leaves.

These spores correspond to seeds, and



A Portion of an Eighty-Acre Orchard in the Trenton District of Ontario

The possibilities of the North Shore of Lake Ontario as an apple producing section are only beginning to become recognized. This orchard, owned by W. A. Fraser, Trenton, Ont., contains 3,200 trees, the oldest of which were planted four years ago. In time this will be one of the great apple districts of the continent.



Young Trees Girdled by Rabbits

—Photo by R. S. Duncan, B.S.A., Port Hope, Ont.

like seeds they cannot germinate unless they get an abundance of moisture; hence if the days are bright and sunny they will not grow but if rain falls and does not dry off for about twelve or eighteen hours they will germinate, and begin to enter the leaves. Once the germ tube has worked through the skin of the leaf it grows rapidly and forms many little threads or rootlets as we may call them. From these in a few days a host of little threads burst up through the skin and keep producing on their tips crops of countless spores. These are constantly being blown by the wind from leaf to leaf and everywhere throughout the orchard, and get also on the stems of the young fruits, and on the fruits themselves. Here, again, if given sufficient moisture, they will germinate and produce scabby areas on all these places.

It is while the fruit and leaves are still small that the fungus spreads most. Once the fruit is three quarters of an inch in size it is not nearly so subject to attack. This is probably due to two reasons: First, the skin has been growing thicker and so is more difficult for the fungus to penetrate. Second, the weather is warmer and brighter, the nights are shorter and so there is seldom a sufficiently prolonged period of moisture for the spores to germinate. As to the time necessary for this, I have had them in the laboratory at a temperature of about sixty degrees F. germinate in between twelve and eighteen hours; at about fifty degrees they were a little longer, and outside at a temperature varying from a

little below freezing to forty degrees F. they had just begun to germinate in forty-eight hours.

It is probable that the germ tube soon enters the apple after beginning to grow. Once it enters it cannot be killed by any spray, hence spraying is to cover leaves and fruit and prevent spores from germinating. From about the middle or end of June until the last week in August there is seldom any noticeable increase in the amount of scab, but with the return of longer nights and lower temperatures, if there is an abundance of continuous wet or foggy weather, as happened in the fall of 1912, we may look for a fresh outbreak of the disease, and should spray to prevent it. The inky spot or sooty fungus of the fruit is also favored by this kind of weather. Leaves are apparently even more subject to this late attack than the fruit and hence there are always plenty of these diseased to carry the fungus through the winter.

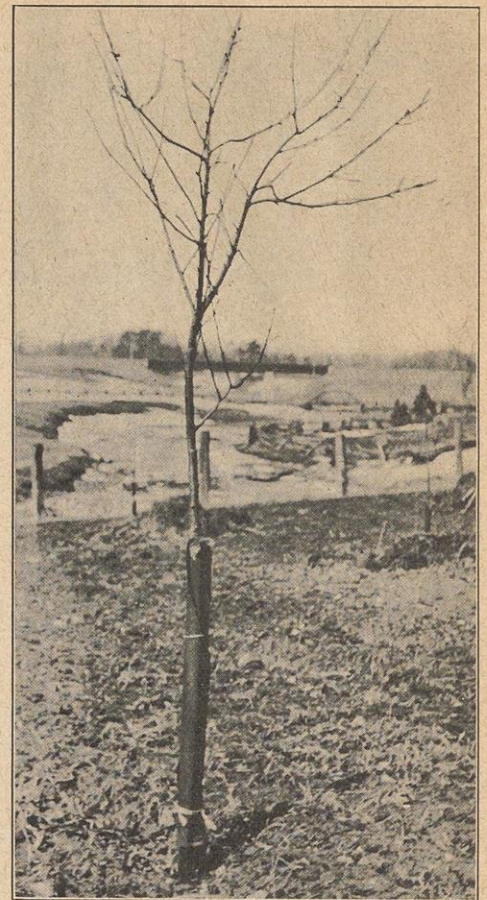
Methods of Cultivation

E. S. Archibald, Wolfville, N. S.

My experience with a part of my orchard for six or seven years in sod is that it gave returns both in quantity and quality equal to any other parts of the orchard of same variety of trees (Gravensteins.) I applied the same kinds and quantities of fertilizers as to the part of the orchard that was cultivated, and whatever grew on the ground I mowed and left as a mulch. I am strongly inclined to put one-half of the older orchard under this treatment from now on and test it as against that of annual cultivation and cover crop.

My feeling is that with heavy clay land not well drained it would not be good but with dry, gravelly or sandy land it might be better than our present method. The mowing of grass or weeds and application of fertilizer will keep a mulch that seems to suit the trees all right. I am not writing as an authority on this matter but have noted for many years trees that have no cultivation (in orchards not my own) and found them doing as well and sometimes better than where cultivation was thorough. Of course fertilizers of some kinds were annually applied.

I would not dare recommend sod culture as a general practice throughout the Annapolis Valley, for many farmers would rake up the grass mown and haul it to the barn for winter feed without putting anything back for mulch. I notice an up-to-date neighbor orchardist is treating his old orchard by alternate plowing and clover. That is, one side of the trees growing clover and the other side cultivated and clover sown for the next year's growth. It means half the orchard cultivated one year and the other half the next. This will enrich the



A Young Tree in Mr. G. W. Noble's Orchard Wrapped with Tar Paper to Prevent Injury by Rabbits

—Photo by R. S. Duncan, B.S.A., Port Hope, Ont.

ground, but is probably hard on the feeding roots to be cut off the second year.

When to Prune

When is the best season to prune fruit trees?—W.L.K.

A heavy pruning of either young or old trees is conducive to wood growth, rather than fruit bearing, no matter at what season of the year the pruning is done. A pinching back of the growing shoots during the summer months is conducive to fruit bearing. Care should be taken not to pinch back too severely as severe heading in is equivalent to pruning and stimulates wood growth. If trees are making from twelve to eighteen inches of terminal growth, one-quarter or one-third of this may be taken off. This heading in tends to produce short twigs or branches in the centre of the top and with all fruits which bear from spurs this is the first requisite to fruitfulness. As a rule we should not expect results from pruning during the season when it is done, but the following year at the earliest. The German practice of bending the end of the shoot back and twisting it around the main branch lower down is probably better than pinching, as it checks the growth without removing the leaves.

To induce fruitfulness in mature

trees the practice of girdling is well known and in some cases advisable. Removing a circle of bark two-thirds of an inch wide right around the branch

early in the spring, thus permitting the sap to run up in the tree but preventing its return, will produce heavy bearing. Of course this practice cannot be fol-

lowed too closely or one might ruin the tree. The fruit buds that determine the crops of the succeeding year are formed the spring of the year previous.

Wrapped and Unwrapped Fruit in Boxes

E. T. Palmer, Assistant Horticulturist, Ontario Department of Agriculture

THE question of wrapping is attracting more and more attention each year from eastern growers, and rightly so. In the western states and British Columbia practically all number one fruit is wrapped. Conditions, however, are somewhat different in Ontario, so that wrapping should be governed by the variety of apples and the market. Western growers are building up a high-class market with this high-class product. At present, however, it is doubtful if it would pay the ordinary grower who has no special market for his fruit.

Briefly, the advantages of wrapping are as follows:

First: It improves the keeping quality by preventing disease spreading from fruit to fruit.

Second: Apart from the control of disease, it improves the keeping quality, in that wrapped fruit may be firm and in prime condition several weeks after unwrapped fruit has become mealy from over-ripeness.

Third: It protects the fruit from sudden changes of temperature and absorbs surplus moisture.

Fourth: It makes an elastic but firm pack, much less liable to shift than unwrapped fruit. This applies particularly to easily bruised varieties; it prolongs their life and good appearance.

Fifth: It gives a more finished appearance to the package. It indicates a high-grade product and the fruit finds a readier sale and a higher price in many markets.

Sixth: Once the knack of wrapping has been acquired, it is much easier in almost every way to pack wrapped fruit, as any packer skilled in both methods will testify.

WRAPPED VS. UNWRAPPED

The main disadvantage of wrapping is that in cases where the fruit is not cooled at the time of packing, the wrapper prevents rapid cooling. There may be a difference of ten degrees F. at the end of one day between a box of unwrapped fruit and one wrapped. Wrapping, however, has so many advantages that this one disadvantage may be practically disregarded.

It seems to be the general opinion of those unfamiliar with wrapping that it adds to the cost of packing. As a matter of fact the cost of the paper is almost saved by the weight of fruit displaced by it. Further, experienced packers can do as quick or even quicker work wrapping than without.

Again, it is easier to procure the proper bulge with wrapping, as the firmness of the pack can be varied considerably from the middle of the box to the ends without injuring the pack in any way.

By packing the apples closer in the centre the pockets between the apples are closed up more. The next layer then will not sink so deep, and therefore builds up the centre. The ends being left a little looser, the pockets are opened a little more and the apples drop in further, and therefore do not build up so high. Practice alone will give the know-

ledge of just how tight to pack the centre or how loose to pack the ends.

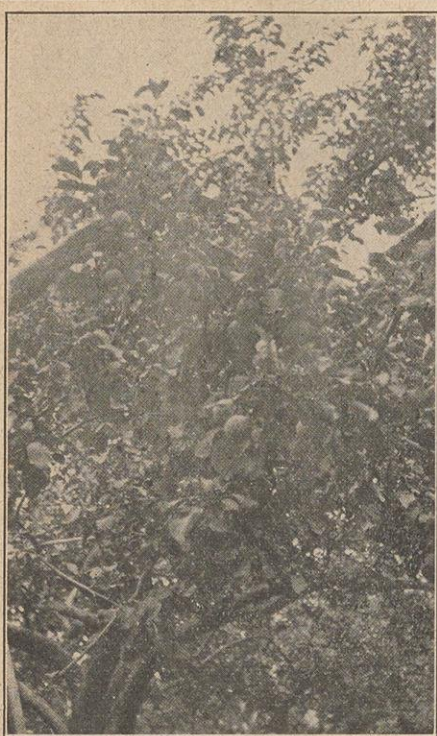
As this difference in firmness cannot be made with unwrapped fruit it is considerably harder to pack it and have as nicely finished a box. Again, as already noted, there is more latitude in the style of pack when wrapping the fruit.

Only number one fruit and possibly number two of the winter varieties should be wrapped. Usually all fruit intended for distant markets as Great Britain should be wrapped unless the market calls for unwrapped fruit, as the



A Well Loaded British Columbia Peach Tree

(Photo by G. H. E. Hudson, Kelowna).



A Duchess Tree After Thinning

This tree was in one of the demonstration orchards in Durham county, Ont., where experiments in thinning showed a profit of over four dollars a tree in favor of thinning.

fruit carries much better. Wrap, too, for markets where there is competition with wrapped fruit from other districts.

In wrapped fruit the top of the box should be packed last, while in unwrapped fruit the top is packed first. Packing the top of wrapped fruit first is a very poor method and should be discouraged, as the smooth side of the wrapped fruit has to be turned down, and the loose ends sticking up are very confusing to the packer, making his work slower.

WRAPPING PAPER

The wrapping paper most commonly used is called the "Duplex," from the fact that one side is calendered and the other rough. This latter side is turned to the fruits as it more readily absorbs any surplus moisture. A white colored wrapper is decidedly preferable as it looks cleaner and neater than any others.

Having paper with the name or trade mark of the grower or association is an excellent method of advertising. It is not necessary to wrap all the apples in such paper, but if the outside layers are done and the trade mark is neat it adds much to the attractiveness of the package.

The paper is cut into several sizes to correspond with the different sizes of apples. The following figures give a good idea of the sizes most commonly in use:

Eight by eight inches, for five-tier and the smaller four and a half tier fruit.

Eight by nine inches and eight by ten for four and a half tier.

Ten by ten inches for four tier and the smaller three and a half tier.

Ten by twelve inches for very large fruit.

These sizes should be adhered to fairly closely, as fruit packed with too large a size paper gives a box light in weight, and also gives the consumer the impression that the price of the fruit is too high. Using paper too small is also objectionable in that a great deal of the advantage of wrapping is lost. It also increases the labor of wrapping and packing to a considerable extent, as does also paper that is too large.

Unstenciled Duplex costs about twelve cents per ream f.o.b. shipping point in small quantities. For larger quantities the price is correspondingly less. A ream contains five hundred sheets, which will pack about three boxes of apples, making the cost per box four cents.

TRAY FOR WRAPPING PAPER

For convenience and speed in wrapping, a tray for holding the paper is very necessary. They are made so that they can be placed on the side of the packing box.

To make one an applebox-end is usually taken and strips which project over the edge about two inches are nailed on three sides of it. On the under side a three cornered block is nailed so that one end of it is even with the open side of the tray. This forms a bracket or brace for supporting the tray when in position on the box.

Two long nails are driven into the open side of the tray, leaving about three-fourths of an inch of their length out. The heads are then cut off and the nails bent down over a piece of iron or wood a trifle thicker than the side of the box. This forms hooks for hanging the tray on to the packing box.

METHOD OF WRAPPING

Practically no time is lost in the operation of wrapping as a skilled packer picks up the apples with his right hand while he reaches for the paper with the left. To aid in picking up the paper it is advisable to use a rubber stole on the thumb or first finger. The apple is placed in the centre of the paper in the left hand with the side or end of the fruit down which is to be packed uppermost. The wrap is then made with both hands by a couple of quick half-turns of the wrist, the last of which brings the smooth surface up and the bunch of paper on the bottom. An expert packer should wrap and pack fifty to one hundred boxes a day, depending upon the size and grading of the fruit.

Any permanent organization, with a large quantity of fruit to sell every year, under a uniform brand which will be a guarantee of excellence, can make an impression on the market.—Prof. Crow,

Summer Pruning

When asked recently for his opinion concerning the summer pruning of fruit trees, Prof. C. L. Lewis, of the Oregon Agricultural College, replied as follows: "I believe with trees three to ten years old summer pruning, if properly done, will have a very good influence in keeping up certain characteristics and tend to bring the trees into bearing earlier. Certain trees, like the Northern Spy, have been materially benefitted. I have seen indications all over the coast of its being a hindrance. In some cases the work has been overdone and I feel that the trees have been damaged. The tendency in mature and bearing trees is to overdo. I have seen men cut off branches six inches in diameter. I have watched a number of orchards, two or three years old, and I fail to see any benefit from such work, in fact the effect, if anything, was injurious to the trees.

"Of course summer pruning can be done in two ways. One is to help shape the tree, correct the habit of growth, and perhaps time can be gained in that way, and this type can be done any time you desire. I believe, however, it should be done moderately and that one should work with the idea of avoiding undesirable growth and development by early pinching and moderate cutting. I believe in doing considerable work of this kind with trees from three years up, and perhaps two-year-old trees.

"The second type of summer pruning is to induce fruitfulness. You can increase the accumulation of tissues around the buds and around the branches by summer pruning, but whether this will result in more fruitfulness and stronger growth, is an open question. Probably it would, like everything else, be influenced by the general treatment of the soil, the drainage it is getting, any artificial stimulation it is receiving, and similar factors. This second pruning for fruit has to be done when the trees are just in the right condition of activity. If the trees are growing too strongly the results are not secured."

Six feet by three feet apart is not too much space to devote to raspberries. We find growing them in hills about six canes to a hill is the most profitable way to have them.—W. J. Kerr, Ottawa, Ont.

Mildew, the great enemy of the English gooseberry in this country, results from planting in sandy soil. The roots of gooseberry bushes run close to the surface and consequently they become scorched. They should be planted in soil that won't heat, such as heavy clay loam. Mulch for the surface will also overcome it.—R. B. Whyte, Ottawa, Ont.

A Park System for Small Towns*

C. E. Chambers, Park Commissioner, Toronto, Ont.

NO town, however small, can afford to grow up without providing suitably for the parks and open spaces it will surely need if its beautification and healthfulness are to receive proper consideration. In practically all of our

requirements when development has probably extended its boundaries far into the environs. In the preparation of the plan the location and distribution of the park areas should be given careful thought, to the end that each section or district

pleasure grounds. Wooded areas adjoining the town will, of course, be conserved, and park lands will be secured within its probable boundaries, as financial means will permit.

THE PARK SITE

In selecting a park site attention should be particularly paid to the matter of its boundaries. It is a somewhat common error to neglect this. Where necessary to a complete picture, the whole of a hillside should be secured, the whole of a body of water, or the whole of a glen or ravine. The appearance of many parks is marred by an impression of incompleteness, brought about by the unnatural restriction and limitation of their boundaries. The park within the town will necessarily be bounded by streets, but on no account should its boundaries be built upon. Back yards as a frame to a park should not be tolerated. The park should be an aid to the town's beauty, instead of being concealed in the rear of buildings, however desirable.

DEVELOPMENT OF SITE

The development of the park site involves a serious responsibility. It calls for the preservation of natural beauty, and the creation of that which should add its share of charm to the town's attractiveness. The location and topography of the site will, of course, govern to a considerable degree the treatment to be accorded it, but great care must be exercised in this, lest, in too great straining for ornamentation, the natural advantages which nearly every well-chosen area possesses be lost in the effort to improve, and an artificial and undesirable result be substituted therefor.



A Playground Festival, Elizabeth St. Playgrounds, Toronto

older cities we have examples of how rapid development and attending congestion have crowded out the open spaces which should have been preserved for the creation and enjoyment of the people. Railways and other undesirable features have been allowed to thrust themselves upon the lake or river front, despoiling it for ever of its natural charm and beauty, and robbing the city or town of its chief attractiveness, and areas which at one time possessed infinite possibilities in scenic value are pre-empted and needlessly destroyed for commercial purposes. There is no excuse for such conditions obtaining in the growing town if the lesson of properly planning for its development is learned in due season. With the wide world furnishing, as it does, a school in which this knowledge may be freely had there is no excuse for neglect to learn this lesson.

PREPARATION OF PLAN

The early preparation of a comprehensive plan is the first step in the conservation of the features of natural beauty with which a town may be endowed or surrounded, and for the setting apart of areas for park and recreation purposes and the establishment of 'boulevards, playgrounds, squares, or open spaces. This plan will have largely in mind not only the town's needs of to-day, as evidenced within its present limits, but the

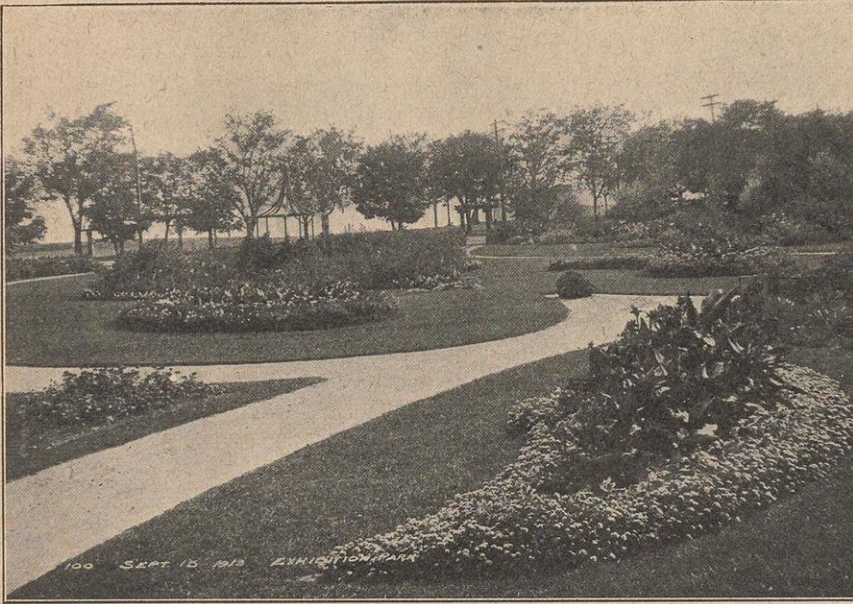
may have its proper complement of parks, squares, recreation grounds, and playgrounds, properly related in their location to the purposes to be served by them.

The most striking scenery of a district will naturally be reserved for park purposes, and especially the banks of a stream or the water front—where such exist. Waste or marshy areas may be profitably reclaimed and converted into



Recreation Area, Bellwoods Park, Toronto, Ont.

*An address delivered at the recent annual convention of the Ontario Horticultural Association.



A Decorated Square, Exhibition Park, Toronto

Drives and pathways will be necessary to lead from point to point. These should be so arranged as to disclose along the way the most striking of a park's scenery and lead to points of greatest vantage. It is particularly essential that the roadways be good, if the popularity of the park is to be developed. Let at least the foundation for this be laid in their proper location, while the work of improving them is undertaken as resources will allow.

STORM SHELTERS

Where planting is necessary, it should be the aim to have this in accord with the surroundings, and it should be made with a view to its future effect on the landscape. Use largely native trees and shrubs, and do not make formal beds of flowers in natural parks—there is plenty of room for these in the town park or square. Water courses should be preserved, and where feasible, may be supplemented by artificially created lakes or ponds, stocked with water fowl. This may be made a most attractive feature in the park.

Certain buildings will be necessary in the park: shelters in case of storm, and booths where refreshments may be obtained. These, while being located in the most useful situations, should not be unduly obtruded upon the landscape, but placed where they will best harmonize with their surroundings. They should be simple in design and quiet in tone, for if we gain in the outstanding appearance of the building, we almost surely lose in the appearance of the park.

Gateways of proper character may be made a pleasing feature of the park plan, and serve to indicate the separation of the life of the town from the quiet restfulness to be found within the park.

A parks system is lacking in one of its essential features where the park areas are not linked together by suitable parkways or connecting links. It is a usual practice to omit parkways from the town plan until the thoroughfares which might have been used for that purpose are rendered more or less unsuitable by the laying of ill-placed pavements, sidewalks and boulevards; while, on the other hand, with a properly conceived plan, a street of even usual width might have a boulevard reservation sufficient to allow of a planting of shade trees and shrubbery which would serve to carry the park through from point to point in a pleasing and appropriate manner.

BOULEVARDS OR DRIVEWAYS

The boulevards or driveway, as differing from the parkway, will aim to give access to all points of special interest within driving distance of the town, and reaches of mountain, woodland, lake or river front will preferably be chosen for it. Land not being held for building purposes in the country traversed, it will be mostly available at low cost, making reservation for the boulevard feasible, from the financial standpoint, before the upbuilding of the country has interfered with its possibilities. Adjoining municipalities might well enter into a concerted plan for the acquisition and construction of the country boulevard, and thus secure to each the advantage of the linking up of their respective external driveways.

It is imperative that provision be made in every town for its adornment with open spaces or squares. Reservation should be made for these at important street intersections, in front of the railway station and public buildings, and in the residential district. These may

be furnished with fountains, monuments or ornamental lamps, or suitably planted, and lend much to the embellishment and attractiveness of the town, besides maintaining breathing spots where, as congestion increases, one may rest for a moment from the everyday stress and turmoil.

PLAYGROUNDS AND RECREATION AREAS

The supervised playground and the recreation area are among the most vital considerations in the life of a growing community, and it is the positive duty of every municipality to see well to it that every reasonable opportunity is taken to provide for the development of these features. The supervised playground, under the care of competent supervisors, and equipped with gymnasium apparatus, a swimming or wading pool, and a building in which are shower and other baths, and rooms which may be used during the winter for the instruction, enjoyment, and entertainment of the young folks, is an indispensable factor in their training for good citizenship, promoting, as it should, the development of the best qualities of body and mind. Locate the playground amid pleasant surroundings if possible. A relatively small part of a park will furnish the necessary accommodation, and the children will receive a lasting good impression through its elevating influence. If only a barren lot is available, plant the corners with shrubbery and flowers, and so bring to it something of beauty and refinement.

RECREATION AREAS

The recreation area is likewise indispensable, and here should be found facilities for the various summer games and winter sports, including baseball, cricket, football, tennis, skating and hockey rinks, etc., tending to the encouragement of a healthy outdoor life, and offering enjoyment, near at hand, to the toilers released for a time from the workshop, factory, or office.

The responsibility for the operation of the playground and recreation area should rest with a single organization, and should not be divided, as is commonly the case, between the school authorities, the town authorities or other bodies.

The carrying out of the phases of park development outlined will involve serious consideration on the part of the smaller town of the financial ways and means to that end, but with the needs of the situation fully recognized by its people, and with a plan of development determined upon, the raising and setting apart of a sum sufficient in each year to forward at least some part of its features should not be a task beyond those earnestly striving towards the ideals of a progressive municipality.

The Gardens of Bagnell Hall

T. S. Hall-Abell, B. Sc., Cobourg, Ont.

AMONG the many folk that, from lands afar, come to Cobourg for rest or pleasure, for scenery or superlative ozone, there are very few who do not visit and admire the beautiful gardens of Bagnell

any rate, the work was a complete success, and not one of the trees thus planted succumbed.

Looking east one sees part of the garden in figure two. This view was taken from the tennis court.

of this, but not showing here, is the bowling green, where one might

Sit and dream the hours away

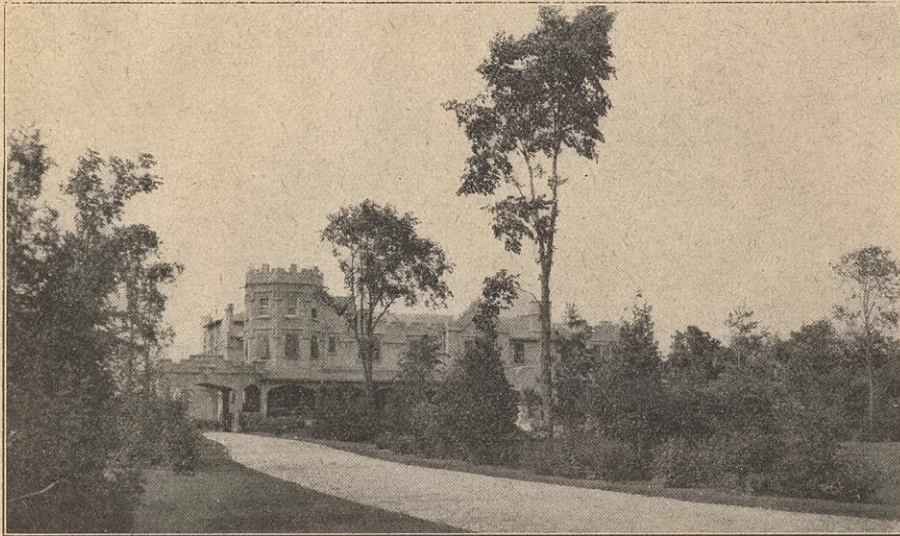
While Raleigh and his Captains play;
The time they wait for Spain.

It seems almost impossible that such a complete transformation, of which only a most incomplete account has been given, could have been effected in so short a period; and any visitor to Cobourg possessed of a desire to see the "garden beautiful," should certainly not miss the opportunity of paying a visit to Bagnell Hall and its gardens. It is one of the beauty spots of Cobourg, and this is saying a great deal, as Cobourg itself is one of the beauty spots of Canada.

Utilizing the Small Greenhouse

By Henry Gibson, Staatsburg

A popular plant that is easily grown, likes a comparatively cool temperature, and is perhaps as serviceable as anything that an amateur can grow, is the cyclamen. The one drawback to growing these plants is the length of time it takes them to reach the flowering stage. From twelve to fifteen months is required to produce a good specimen. Seed should be sown in August or September in pans of light, sandy soil, and kept growing right along for flowering the following autumn and winter. As soon as the seedlings appear, place them near the glass so that they do not get drawn, and when large enough to handle, prick off several into a six-inch pot. In the spring they may be potted singly into three-inch pots and grown in a cold frame all summer, with plenty of air, after becoming established, and shade enough to prevent bright sun from reaching them. By July they will require shifting into five or six inch pots, in which they will flower, and an extra good specimen would be better placed in a seven-inch pot. Good drainage must be ensured and a compost used of



Bagnell Hall: Front Approach, Showing Porte Cochere and Elms planted only three years ago—Fig. 1

Hall, the residence of Willis F. McCook, Esq. Surely this gentleman—who is widely known, being a prominent Pittsburg barrister—can truly say as did the Roman warrior of old, "Veni, vidi, vici."

He came.

He saw—a brickyard—a claypit—a mangold wurtzel patch—and by the all-powerful compound of brains plus brawn, he turned this place of ashes and brickbats into such a garden as one sometimes dreams of—old courts scented with sweetbriar and roses—shady nooks and nodding hollyhocks—a bowling green that Sir Francis Drake might have played upon, and in the centre of all a residence such that the most exacting critic cannot find the wherewithal to criticize.

He conquered.

His coming was in 1909. In October of that year work was commenced under the watchful eyes and to the plans of well-known landscape architects. A general idea was given to them to which to work; other than this, a free hand was theirs.

In figure one, one sees the driveway from the old Kingston Road about half a mile east of the Cobourg Post Office. This leads in a graceful curve up to and through a Porte Cochere, below and adjoining the south-west tower.

Notice the elms on either side of this drive. They were planted less than three short years ago by means of the misnamed tree-planting machines. At

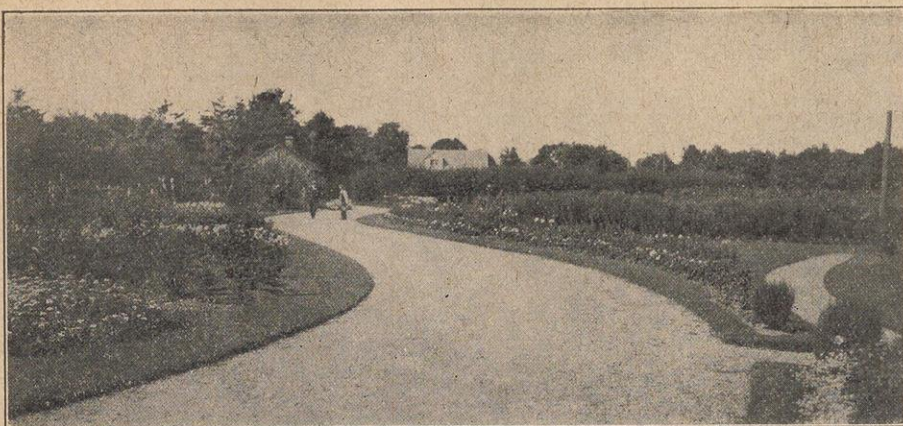
Figure three shows the beds for cut flowers—on the left front where bloom asters, verbenas, gladioli, and roses. The ribbon border on the right of this picture was picked out with red and white geraniums and blue lobelias. One is thankful that a combination of red, white and blue is correct in Canada as well as in the United States of America.

Looking west and to the right of the drive may be discerned a small brick building. This is the one remaining vestige of brick kiln days. It is the hut in which the men's implements were stored.

The interior courtyard shows up well in figure four, the decorative effects being done in Roman Stone. To the left



Bagnell Hall from the Tennis Court, Looking East—Fig. 2



Bagnell Hall Looking West, Showing Ribbon Border and Cut Flower Beds—Fig. 3

equal parts of loam and leaf soil. Never use all rank manure.

The roots of cyclamen proceed from the fleshy rootstock or corm, and this should be about half-covered in potting, leaving the top roots, whence the leaves develop, clear. The after-culture consists of keeping the plants at all times in a light, airy place, and as near the glass as possible to prevent drawing and consequently weakening. Shade in bright weather only and syringe on fine

days to keep the plants clean and encourage growth.

Cyclamen may be grown on a second year by drying moderately and resting for a time, afterwards reducing the soil about the roots and repotting. They should receive similar treatment as that suggested for young plants, but the flowers are generally earlier and smaller the second year. It is not advisable to save plants after this age, as young stock is far more satisfactory.

My Favorite Flower---The Sweet Pea *

J. H. Wills, Mitchell, Ont.

EACH year I plant my sweet peas in the same place along by a wire fence on the west side of my garden. The ground is clay loam and well drained. In the fall, after the old vines have been pulled up, I throw out the earth about ten to twelve inches wide and one foot deep. I then put in fresh earth, giving it a good coating of well-rotted manure and mix it thoroughly. Later on, before it freezes for the winter, I throw this earth outside of my trench into a ridge, keeping it as lumpy as possible so as to let it get full the advantage of the frost.

My experience has taught me that the earlier you get the seed planted the better bloom you have, and the flowers bloom for a longer period. As soon, therefore, as the ground is ready to work, I clean out the trench and put in about two inches of good manure. This is dug into the subsoil. On top of this I put about five inches of the prepared earth and then plant my seed, planting them in double rows. The seed is sown four to six inches apart and covered with about two inches of earth. This is pressed down with the hoe. As the vines grow up I gradually draw more earth around them till it forms a slight ridge about two inches higher than the surrounding earth, leaving a shallow

trench along the row for watering purposes.

My sweet peas are planted where they get lots of sunshine and plenty of fresh air, and I try to keep the soil cool and moist, but not wet and heavy, as this would cause a weak, yellow vine, and they would not get a good growth. As mine are well drained I always have a strong, healthy, tall vine.

For supporting the vines I prefer for a trellis a six foot wire netting. The

netting is put in place when the vines are two or three inches high so that the vines can get early support. The netting is left about two inches from the ground.

To help retain the moisture, keep the soil around the vines fine, and especially after heavy rains. Cultivate about two inches deep. This lets in the air and helps keep down the weeds. You cannot have the best flowers and weeds.

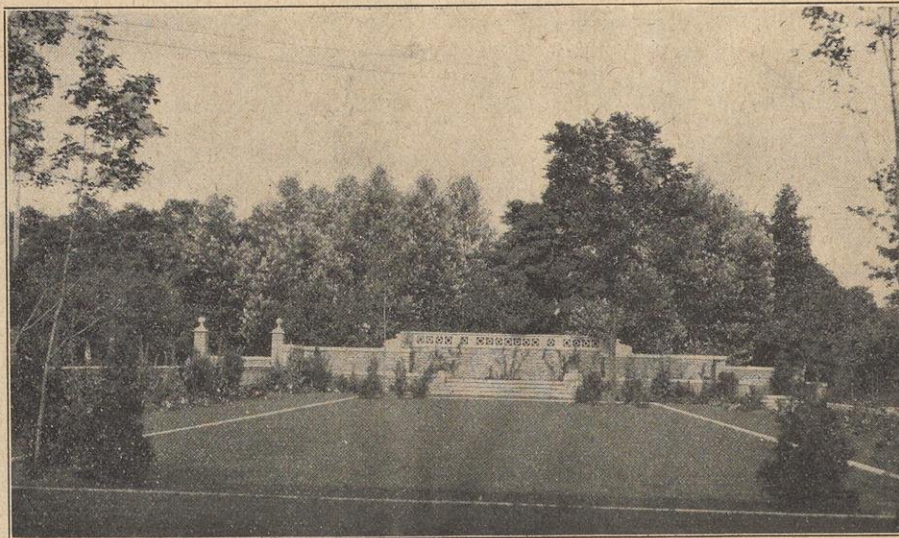
If the plants need watering give them a good soaking at least once or twice a week, as that is better than a sprinkling every night. I always water at night as I am away early in the morning. Water with a rather weak liquid manure, putting the liquid in the trench along the vines.

If the weather keeps dry and hot, spray the under part of the foliage with cold water or soap suds to keep down red spider and aphids.

When cutting the flowers pick them every day. Pick every flower that has all the flowers on the stem in bloom. Do not allow seed-pods to form if you want long continuance of bloom. Select certain plants for seed purposes.

To prolong the season of bloom, pick off the tops of the plants. They will then branch out again. If after a long period of blooming the flowers become small and the stems short, prune the vines. This brings longer stems and larger flowers.

If you decide to save your own seed, pick out the sturdiest vine, cut the poorest flowers, and save the seed from vines having a long, strong stem with three or four flowers to a stem. When they are ripe pick the pods and save the largest seeds. The smaller seeds are at the end of the pods. Discard these. By this method I have had stems sixteen to eighteen inches long and flowers two inches across.



Bagnell Hall: The Inner Court—Fig. 4

*This article won the third prize in the essay competition on "My Favorite Flower and How I Grow It."

The Beekeeper

With which has been Incorporated The Canadian Bee Journal

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No. 1

Comb Honey Production and Marketing*

Morley Pettit, Provincial Apiarist, Guelph, Ont.

WE all know, especially this year, that we are going too largely into extracted honey production. Those who have been teaching bee-keeping may be responsible for this to a certain extent. I have frequently urged those who have only a few hives of bees to start with the production of extracted honey because it is easier, and they get better results. As soon as you learn to produce extracted honey, change to comb honey if you wish to do so. The result of this sort of teaching is that comb honey can scarcely be obtained in Ontario, and this year we have a really good crop of extracted honey.

The following are the main points in extracted honey production:

- 1st—Strong colonies.
- 2nd—Good young queens.
- 3rd—The race of bees.

The method for securing strong colonies has been ably described by Mr. Lunn in his address on "Extracted Honey Production." The matter of the queen should be looked after during the latter part of the season so that colonies will go into winter quarters with their queen condition all ready for next season.

While we are on the queen question, I feel like throwing out a rule which Mr. Sibbald gave me some years ago, which I have found reason to strongly endorse, and that is that a full colony producing extracted honey should at no time be without a laying queen if it can possibly be avoided, and any method whereby you destroy or remove the queen from a full working colony and leave them to raise a queen from a cell is objectionable. That may seem radical to some, but you know the risk you always run of the queen being lost because perhaps the cell did not turn out right or the queen was lost in mating and the colony is left queenless. If it is a small queen rearing nucleus your loss is slight, but if it is a full working colony often that colony goes on queenless for a length of time before you discover the condition. Never have your full working colonies without a queen if you can avoid it.

Young queens should always be reared in queen rearing nuclei after the cells

have been produced instead of their being reared in full working colonies.

With reference to the race of bees, I have had the best results from a cross between the Italian and the Carniolan. The black bees are good cappers, but are objectionable for a good many reasons. The objection to the Italians is that they frequently will put the capping down on the honey so that it has a water-soaked appearance.

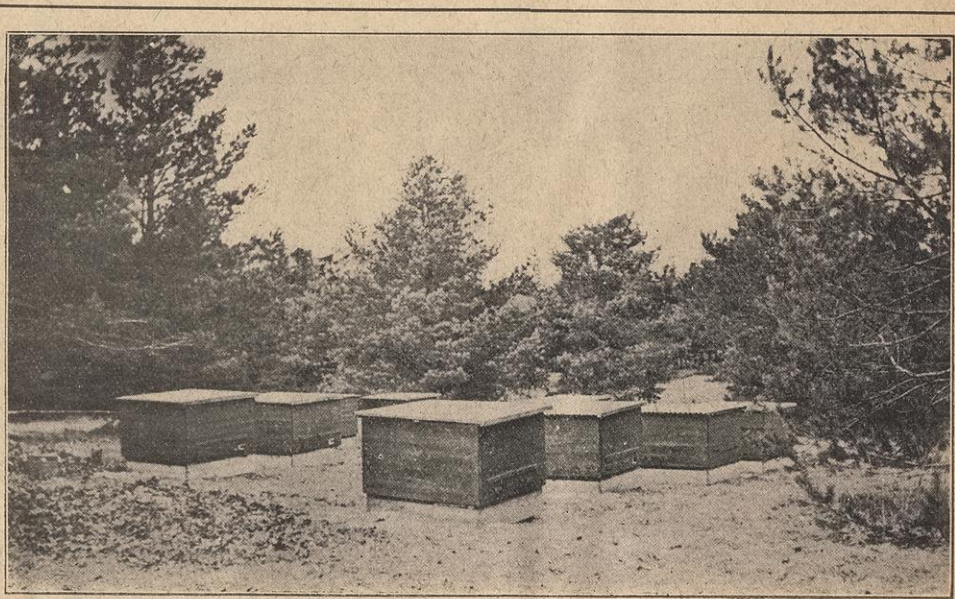
The style of hive depends on the kind of hive you have. Splendid results have been secured from the sectional hive. Some of our most successful comb honey producers use shallow brood chambers, giving the colony one or two during the winter, two in the spring while they are building up, reduced to one when the honey flow commences, thus crowding the bees into the supers. Those who have the hives with ordinary hanging frames like the Langstroth or Richardson cannot follow such a method.

The method described by Mr. Lunn is one that I should recommend. Bring the colonies through the spring well; put that first set of combs on top, allow the queen to go up and occupy that set of combs until they are ready for the clover flow, then reduce to the one brood chamber again and put on your section supers at the beginning of the clover flow.

The style of super that you would use should be one which will protect the woodwork of the sections from the bees as much as possible. The commercial comb honey super with the section holder where the sections rest on a strip of wood that protects the bottom side of the section is a very satisfactory super. The objection that I have to that super is that it puts your comb building a little farther away from the brood chamber and makes more space for the workers to climb over in going up into the supers to work. I must confess that I have not tried those supers with the section holders, and should not judge. The supers that I have had the most experience with are the T tin described by Dr. Miller; a strip of tin folded T shape runs from side to side of the super and the corners of the sections rest on the flanges of this T tin. The objection to that is that the woodwork is exposed to the propolizing of the bees but it gives good results. Always use separators in comb honey production and of the different kinds of separators the best results that I have secured are from the plain wooden separator bored full of three-sixteenth inch holes.

SEPARATORS

I don't like a plain separator that divides each section into a little box by itself as the bees do not like to go into



The Guelph College Apiary in Winter Quarters

*Extract from an address delivered at the recent annual convention in Toronto of the Ontario Beekeepers' Association.

those little boxes to work; they like to be able to get back and forth. The fence separator, unless it is made very accurately, is going to give the surface of the capping a washboard appearance; there are going to be little ridges along the capping. If you do use the fence separator, be careful about the spacing of the slats in the fence; they should not be more than a quarter of an inch apart.

The separator that has given splendid results in New York State is the wire cloth separator invented a number of years ago by Mr. Bettsinger, of New York State, and described on previous occasions at this convention, made of tinned wire cloth with a quarter-inch mesh; this has given splendid results to New York beekeepers. In any case use some separator that will have openings and be sure that they are not too large to induce the bees to bulge the comb opposite the opening. Have the separator the full width of the section.

As to the style of section to use, the popular section in this country has been the four and one-quarter square section. The tall sections are more attractive and make a better appearance on the counter. If the two are placed side by side the customer will choose the tall section because it looks larger.

In putting the foundation in the sections, be sure that you use a full-sized sheet that will just fill the section. The foundation fastener that has given me good results, where I have used the four-piece section, is the hot plate foundation fastener brought out by Mr. Alpaugh.

ANOTHER METHOD

Another method is to have square blocks attached to a board. These blocks must come to the middle of the sections. The sections are slipped over these blocks, then the foundation put in and a little melted wax is run around the edge to stick it fast to the sections. I always use the four-piece sections myself, as the comb honey that I produce is always for exhibition purposes, and I believe that you cannot get as satisfactory a section as in the one-piece.

When you have your section supers ready, put them on at the beginning of the honey flow and only on the strongest colonies. Anyone producing comb honey alone in an apiary and not producing extracted honey in that same apiary is working at a loss, because there are always colonies that either are weak or will not work in the sections.

I have not tried comb honey production extensively in out yards. I have produced some comb honey in out yards and practised the shaken swarm method, but I prefer to produce extracted honey in out yards. Comb honey may be so produced, but a short time after you put your section supers on you will find most of them preparing to swarm unless you have managed exceedingly well. As

soon as you find the swarming impulse to the right stage, you either make shaken swarms by taking all the brood away and giving them the condition of a newly hived swarm, or hive the swarm on the old stand and give them the supers where the comb honey work has been started. See that the new swarm, either natural or artificial, is hived in the old stand so you get the bulk of the bees in the strong working colony.

In the brood chamber of that newly hived or newly shaken swarm, you will place not combs but frame, of either foundation or starters. I have had the best results with latter. My theory of it is this: When the clover flow is so short as it is I don't want them to have a chance to store honey any place but in the section supers. I do not want them to put honey in the brood chamber; I can look after that. Do everything you can to discourage the storing of honey in the brood chamber in colonies run for comb honey. Give them these frames with the narrow starters in the brood chamber, and with the frames of starters give one frame containing a bit of comb, perhaps a half or third sized comb. That comb may not be necessary in some localities, but where I have had experience, the amount of pollen coming in at the time—when you have that strong colony of bees—is so great that they will take it up into the sections if you do not give them a place to store it in. A queen excluder should also be used on a new swarm, partly to help keep pollen out of the super and partly to keep drones out of the sections.

As soon as we find that the sections in the first super are mostly filled and capping is started, if the honey flow is still well on another super of sections is placed underneath between that and the brood chamber. The time of putting on this second super will depend on the strength of the colony and the state of the honey flow. I have often put on two supers at once. In hiving a strong colony, put the two supers on first thing and then go right ahead. After the two supers have been placed, if you are getting near the end of the honey flow, you need to watch carefully not to give more room for fear of having unfinished sections. We do not want to crowd them, and when we came to that time, we either put the next super on top or else put on a super of shallow combs for them to work on. I have usually simply put on top a super of sections; if it is put on top of the ones they are working at, it is a kind of safety valve, and yet they will go on finishing much better the work they have already started. That has to be watched very carefully.

TWO METHODS

When the sections are finished and ready to come off, the two methods of taking off these sections are: First, the

Porter bee escape, and second, driving the bees out of the supers with smoke. Of the two, I prefer the Porter bee escape. The objection raised to them is that if there is no uncapped honey in the sections, the bees are liable to uncapped a little of the honey to fill themselves. I have not been troubled that way to any extent.

After the comb honey is taken off, it is important to grade it carefully. Our grading rules require that for No. one or fancy the cappings should be white and even, the woodwork should be carefully scraped clean, and the honey should be capped out to the wood with only perhaps a few stray cells—that would be for No. one sections. In putting this up in crates for the market you should be careful about the crating of it. It is usually put on the market in the glass-front 12-section or 24-section wooden crates. The corrugated shipping case is becoming popular; it is not a good show case, but it is really one of the best for shipping any distance. This case was brought on the market by J. E. Crane, of Vermont, and is now made by a Niagara Falls firm. Paper or wooden cases should be packed in carriers, containing six or more cases each. These carriers should be strong enough to carry the goods properly, and should have not less than two or three inches of straw or excelsior in the bottom as a spring to take off the jolt of the handling of the goods. The carrier should have handles so that one man can take hold of each end. Nail a piece of lath on each side, a little nearer the top than the bottom; they project about four inches, and this answers a double purpose—they make convenient handles for the freight man to handle these boxes and they make it convenient to set the boxes on the end or side, or top. When they pick it up by the handles they are going to set it down right side up.

I think in the question of transportation we want to make it as easy as we can for the freight handlers to handle our goods well. Make it handy by putting handles on heavy boxes, then mark on the top "Glass," or "Fragile," also "This side up with care," and then have it clearly and perfectly addressed for the handlers.

If you are loading a car, see that your combs are placed lengthwise of the car and that they are packed solidly. In shipping lake and rail you have to remember the extra handling that takes place.

Apiarists who find themselves in need of stores may give their bees a sixty per cent. syrup mixture. A convenient style of feeder is a simple fruit jar placed on top of the hive.—Prof. M. Pettit, Guelph, Ont.



The Apiary of J. A. Marshall, Binbrook, Ont. This Apiary Extracted 31,000 lbs. The Spring Count of Colonies was 195, Increase 312

Jottings from Convention Speeches

A cooperative society and a combine are diametrically opposed. Cooperation is the blending of individual interest in to common interest.—Blake Miller, Elgin Co.

People do not realize the great food value of honey.. We must educate them.—Jacob Haberer, Huron Co.

Consumption of honey has increased a thousand times what it was twenty-five years ago.—John Newton.

A pail of poor appearance is unworthy the article it contains.—Miss E. Robson, Middlesex Co.

More queens are lost through meddling with the hive afterwards than during introduction itself. Leave the hive alone for several days till the queen has settled down and is laying nicely.—S. D. Couse.

Cooperation in buying and selling is necessary to the success of the beekeeping industry.—J. Dickson, Glengarry Co.

The director should study the interests of the association and of the beekeepers in his district.—M. B. Holmes, Leeds Co.

There should be a foul brood inspector in every municipality, and every colony should be inspected every year.—J. D. Evans, Islington, Ont.

Pure air is of great importance in cellar wintering.—J. Armstrong, Cheapside, Ont.

A man who has a liking for the business, who has foresight and stick-to-it-iveness, is the man who will make a beekeeper.—D. Donaldson, Carleton Place, Ont.

A few plans for introducing queens: Contract the entrance to the hive and puff in a little smoke. Close the entrance for a few minutes, at the end of which

time allow the queen to run in. Puff in a little more smoke and close the entrance a short time longer. As a general rule the queen will be accepted. Before introducing, it is as well to clip both the queen's wings. One wing clipped is liable to cause the bees to supersede the queen.

Mr. F. Krouse, Guelph, makes the colony queenless the night before and allows the new queen to run in in the morning as an ordinary bee would.

Wintering Bees

A Leeds County Beekeeper

One of the most important problems confronting beekeepers in Eastern Ontario is the wintering of their stock.

Late in September or very early in October the colonies should be weighed and the weight marked upon the hives. Lifting the hives is not satisfactory for a weak colony will seem much lighter after lifting a very heavy hive than it will after lifting a very light one.

There is a difference of opinion as to what the standard fall weight should be, some asserting that sixty pounds is necessary while other apiarists feel quite satisfied with fifty pound colonies for winter quarters. Our experience has been that the lesser weight with new or ordinary swarms is comparatively safe. Older swarms seem to have a greater percentage of wax which of course means less honey in a fifty pound hive. Again, local authorities in the spring make a difference for in some localities bees begin to store much earlier than in others.

METHOD OF FEEDING

Hives that are found light should be kept up to the standard required. A syrup of sugar and water, two pounds of the best granulated sugar to one pound of water, makes an excellent food upon which bees do well and keep healthy.

The syrup may be given in any of the ordinary feeders, in extracted combs or in quart sealers. With sealers we use a feeding board the size of the hive with holes nearly as large as the mouth of the sealer. The warm syrup is placed in the sealer which is covered with cheese cloth and inverted over one of the holes in the feeding board. A deep super is placed over the sealer or sealers, if more than one be used. The super is covered until the feed is stored in the brood chamber by the bees. Whatever plan may be adopted the hive should be kept quite warm during the whole time of feeding. When the required weight is reached and bottom boards found to be clean, the brood chambers may be covered smoothly by whole blankets, not torn or frayed ones. Duck blankets are the best. Some extra covering should be used while the hives are left on their summer stands; bran or meal sacks cut through the centre cross-wise make excellent extra blankets for fall and spring. Hives thus prepared may be left out until quite late and then brought in for winter without fear of serious loss.

STORING HIVES

In Eastern Ontario most apiarists winter their bees in their cellars. After some experience in different ways of storing the hives away we use the following method: All covering boards are stored by themselves and the first hive placed a few inches from the bottom of the cellar with the back end raised about three-eighths of an inch on blocks. The next hive is placed upon the first, care having been taken to place blocks again under the corners. Strips across the end and on top of the first hive will also serve. Thus the hives may be tiered up five or six high if an air space is provided above the covering blanket and below the bottom of the hive.

The Canadian Horticulturist

COMBINED WITH

THE CANADIAN HORTICULTURIST AND BEEKEEPER

With which has been incorporated
The Canadian Bee Journal.
Published by The Horticultural
Publishing Company, Limited
PETERBORO, ONTARIO

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FRUIT GROWERS' ASSOCIATIONS
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1. The Canadian Horticulturist is published in two editions on the 25th day of the month preceding date of issue. The first edition is known as The Canadian Horticulturist. It is devoted exclusively to the horticultural interests of Canada. The second edition is known as The Canadian Horticulturist and Beekeeper. In this edition several pages of matter appearing in the first issue are replaced by an equal number of pages of matter relating to the bee-keeping interests of Canada.

2. Subscription price of The Canadian Horticulturist in Canada and Great Britain, 60 cents a year; two years, \$1.00, and of The Canadian Horticulturist and Beekeeper, \$1.00 a year. For United States and local subscriptions in Peterboro (not called for at the Post Office) 25 cents extra a year, including postage.

3. Remittances should be made by Post Office or Express Money Order, or registered Letter.

4. The Law is that subscribers to newspapers are held responsible until all arrearsages are paid and their paper ordered to be discontinued.

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6. Advertising rates, \$1.40 an Inch. Copy received up to the 20th. Address all advertising correspondence and copy to our Advertising Manager, Peterboro, Ont.

CIRCULATION STATEMENT

The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December, 1911. The figures given are exclusive of samples and spoiled copies. Most months, including the sample copies, from 13,000 to 15,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruits, flowers or vegetables.

January, 1913	11,570	August, 1913	12,676
February, 1913	11,600	September, 1913	12,085
March, 1913	11,209	October, 1913	12,085
April, 1913	12,000	November, 1913	11,493
May, 1913	12,368		
June, 1913	12,618		
July, 1913	12,626		
		Total	132,029

December, 1913 12,967

Average each issue in	1907, 6,627
" " " " " "	1908, 8,695
" " " " " "	1909, 9,970
" " " " " "	1910, 9,067
" " " " " "	1911, 9,541
" " " " " "	1912, 11,037
" " " " " "	1913, 12,002

Sworn detailed statements will be mailed upon application.

OUR GUARANTEE

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of The Canadian Horticulturist are as carefully edited as the reading columns, and because to protect our readers we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with any subscriber, we will make good the amount of his loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in The Canadian Horticulturist."

Rogues can not ply their trade at the expense of our subscribers, who are our friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honourable business men who advertise, nor pay the debts of honest bankrupts.

Communications should be addressed

THE CANADIAN HORTICULTURIST,
PETERBORO, ONT.

Annual Meeting of the Middlesex Beekeepers Association

Miss Ethel Robson, Denfield, Ont.

The annual meeting of the M.B.K.A. was held in the County Buildings, London, on October 25th. The president, Mr. E. T. Bainard, of Lambeth, was in the chair.

At the morning session only routine business was transacted. Mr. Bainard refused to accept the presidency for another year, and Mr. H. Gibson, Lucan, vice-president, was unanimously chosen as president, Mr. John Campbell, Lambeth, vice-president, and Miss Ethel Robson, Denfield, was re-elected secretary-treasurer.

At the afternoon session the president introduced Mr. Holtermann, of Brantford, who was given a hearty reception. Mr. Holtermann's subject was "The Marketing of Honey from the Standpoint of Producer and Buyer." Mr. Holtermann said, in part: "How to sell honey has not been of much interest until lately, and it is a subject I hardly know how to handle. There are many points common to all articles to be sold.

"In selling you must always keep the quality up to the mark, your goods must be up to the sample, or there will be trouble, or if there is not trouble you will have to look for another market next year. It is most important that you never misrepresent.

"Honey should be clean. Where large quantities are extracted, it is almost impossible to strain clean. I have found the most satisfactory way to store the honey in large tanks about six feet deep, and let it clear by gravity and then skim it off.

"Be very careful to give all the package calls for. We stuck to net weight long after others gave gross, but finally had to begin using the gross, though we still think net weight the better.

"Then there is the question of the size of the package. My advice is, keep the small package out of the way of the consumer; the cost of living has increased because people will persist in buying in small quantities; the consumer in the end pays the cost.

"As long as a man can get rid of his honey at home that is the place to sell. However, if a man retails at ten cents he must be prepared to take less than this wholesale.

COOPERATION NOT APPROVED

"I am not in favor of cooperative selling. Business expenses have to be met, and someone has to pay the piper, and Government has no right to sell the goods of the producer. Now, if goods are sold cooperatively, you have all the difficulty of grading and the second-class honey producer thinks his honey just as good as another's. The advantage of cooperation is that the poorer man is given the same chance to sell his honey as the good business man. I don't think that the good beekeeper has anything to gain by cooperation; my advice is, put the man who wants cooperation on the committee to secure it, and you won't hear anything more from him.

COST OF PRODUCTION

"Another thing, don't belittle the cost of production. We have heard a great deal lately about the immense profits in beekeeping. If we make the public think there are such great profits in beekeeping the public is going to object to paying the prices we ask. We must take the whole cost of production into consideration. At

present the public is in danger of figuring it out that the honey costs us nothing. My claim is that if a man has five departments in his farm and beekeeping is one of these, expenses must be charged against each department.

"We have now reached a crisis in the honey market, the west has not the purchasing power it has had in the past; besides, we have to compete with the cheaper honey which is sent in from the western States. It has always been our principle that the more the man who buys our honey makes the better we are pleased, because we know he will buy again, hence we have to meet this changed condition in the market."

QUESTIONS ANSWERED

Mr. Anguish: "I am told that you will not sell honey locally. Is this true?"

Answer: "Yes. We are in the wholesale business and cannot afford to do this. We leave the home market for the smaller beekeeper."

Question: "What size package would you advise?"

Answer: "Just as large as you can induce the consumer to buy. It is hard for the retailer to handle anything larger than the five-pound pail."

A hearty handclap testified to the appreciation felt for Mr. Holtermann's address.

COOPERATION ADVOCATED

The next speaker was Mr. Weir, from the O.B.K.A. "I was pleased to hear Mr. Holtermann," said Mr. Weir, "though I disagree with what he had to say about cooperation. Cooperation is being carried on with great success in Europe; it is not a means of incurring expense, but of keeping it down. Beekeepers have to get together on the ordinary principles of cooperation in order that the individual beekeeper can get a square deal. The Government will pay attention to concerted action.

"Neither am I as pessimistic as Mr. Holtermann regarding the honey market. Honey has never been advertised, while every other commodity has been. I am pleading for the principles of cooperation in order that we may get the best results as if you have an established brand you can sell it more easily. The Government should not interfere with the actual business of cooperation. Cooperation will develop the man individually. If we insist on a uniform grade it will bring the poorer beekeeper into line. Again, bulk counts in business, and cooperation gives this.

"The Association is just starting out in this work of selling honey, and we have much to learn. A charge of 5 per cent. is made on all honey sold, and it is clearly understood that unless there is a sale there is no charge. We have already effected a number of sales. It is much easier to dispose of the five pound and two and one-half pound lithographed pail than the larger package."

Mr. Holtermann: "How do you expect to get the grade? Variation in men cannot be overcome, and each man thinks his own honey ought to be classed No. 1."

Mr. Lunn: "If I have clover seed to sell and my neighbor has better, I don't kick if he gets more money. The same ought to be true of honey."

Mr. Weir: "The dealer has the same difficulty to meet in grading as the association would have. When the public is

educated to demand a certain grade they will get it."

Question: "How were the sales by the association made?"

Mr. Weir: "The beekeeper sends a sample. The honey has to be up to this."

Mr. Lunn, Fingal, spoke briefly, explaining what the Elgin County Association has accomplished in the way of the cooperative buying of supplies. Personally, he had saved from ten to fifteen dollars this way, and he was only a small beekeeper.

After some discussion the following resolution was passed: "That the O.B.K.A. be asked to take up the matter of buying supplies, especially tin containers."

It was decided to devote any money which the association might win in prizes towards the expense of a winter convention to be held in London. The arrangements for this were left in the hands of the executive.

I consider *The Beekeeper* a fine publication. It contains a lot of practical and entertaining information.—W. T. Davis, Stratford, Ont.



The Apiary of Mr. E. F. Robinson, Victoria, B. C., Under Snow

Beekeeping in the Kootenays

By W. J. Sheppard, Provincial Government Foul Brood Inspector and Instructor in Apiculture for the East and West Kootenay Districts

Having just completed an autumn tour of my territory, it may be of interest to some of the readers of *The Beekeeper* to hear how beekeeping is progressing in this part of British Columbia. The Department of Agriculture, which is doing all it can to foster the agricultural development of the province, fully recognizes the fact that the beekeeping industry is deserving of every encouragement, not only from the point of view of honey production but for the pollenizing of the blossoms of the fruit trees, to the cultivation of which such a large area has been devoted in the province.

There are 76 known beekeepers scattered at varying distances over the East and West Kootenaws, possessing between them just over four hundred colonies, many of whom have not had much experience in the art of apiculture. One of the principal difficulties they have encountered is the problem of wintering. Several informed me that they had tried wintering in root houses and cellars and had met with but indifferent success, and told me they would take my advice and try outside wintering in future.

The winters in this section are not very severe, the thermometer seldom registering more than ten degrees below zero (Fah.), and this only for a very short period; so there can be no question that outside wintering is the better plan. In order to prevent the sun from warming up the hive entrances in winter and enticing the bees out, only to get chilled on the snow, I have suggested that the hives should be faced to the north, as from my own experience I have found this answers admirably. In fact, my hives are faced to the north all the year round, as I find that shaded entrances are beneficial here, both in spring and summer as well, in helping to check the swarming fever and liberating bees for work in the fields that would otherwise be occupied as fanners. It is also a good plan to scatter litter on the top of the snow round the hives in February and March so that the bees, when they come out for a cleansing flight, have a safe alighting place, preventing thousands of them from coming to an untimely end and thus weakening the colonies at a time when bee life is most valuable.

Practically all the bees kept in this section of the province are Italians, there being only a few hybrids scattered here and there. It would be an excellent idea if these were all requeneed with pure Italian queens; and I intend to do all I can to bring this about. Some of these hybrids were especially vicious, and after making their acquaintance it was no surprise to me to find that their owners did not appear at all anxious to go near them. I did not find any indication or trace of foul brood, and I have every reason to believe that the whole province is free from the disease. It is good also to know that the Minister of Agriculture declared a nine months' quarantine in August last on bees imported into the province, under the provisions of the Provincial Foul Brood Act of 1911.

I examined several hives in which bees had died out and found that drone-breeding

queens had been the cause of their decease, except in a few cases where the trouble was starvation, through late swarms having been hived on starters and no food provided for them. A large percentage of beekeepers are using eight-framed hives (Langstroth), and as the queens were generally restricted to the eight frames, there was no wonder that I heard the same remark over and over again. "We have had swarms in abundance all the time, but no honey." The latest had been hived on starters a few days before my arrival and were then very nearly in extremis, as they had not a particle of food. We sprinkled them with thin warm syrup to bring them round, and found some frames with built out combs to which we transferred them and put on a rapid feeder straight away. This section of the province produces excellent light honey of splendid flavor. The principal nectar-yielding flora are the clovers, raspberries, snowberry (*Symphoricarpos racemosus*), fireweed (*Epilobium angustifolium*), and milk-wort (*Apomynum hypericilolium*). There is no heather in the province.

Notes from the Year's Work*

Morley Pettit, Provincial Apiarist, Guelph, Ont.

The past year has been a busy one and one attended by gratifying results. The beekeepers of the province have shown an increased interest in all the activities of the Department and of the Association, and particularly in their own business, with the result that many of them have reaped a bounteous harvest. The increased interest in beekeeping has been marked by the goodly attendance at the Ontario Agricultural College Short Course in January; at the summer demonstrations and county conventions. The fact that nine new county organizations have been formed is also significant. The more tangible evidence of aroused interest is the membership of our association, which is nearly one thousand greater than it was a year ago; the volume of the queen business, two thousand five hundred queens bought by the secretary for members, and the fact that the first slight effort to assist members to sell honey cooperatively has resulted in the sale of seventy-five thousand pounds

of honey, valued at over eight thousand dollars.

The beekeeping short course, held for two weeks in January at the Ontario Agricultural College, was attended by about seventy beekeepers from all parts of Ontario and other provinces. The number of cooperative experiments sent out by the Beekeeping Branch of the Experimental Union was increased by the addition of an experiment on "Spring Management of Bees." This experiment was undertaken by about three hundred and fifty beekeepers, and very good results secured.

The apiary demonstrations, fifty-nine in all, were attended by an average of thirty-two, which is a larger average than last year, showing that the interest in these meetings is increasing rather than otherwise.

Fall fair demonstrations were also better attended than previously and along different lines, the demonstrator being given an inside stand where he could come more closely in contact with interested persons than in the demonstration cage formerly used. For the two classes of demon-

*A report presented at the recent annual convention in Toronto of the Ontario Beekeepers' Association.

stration work we used a special vote of one thousand dollars from the Federal Grant to Agriculture in Ontario.

MEMBERSHIP INCREASE

One of the most interesting features of the year's work has been the campaign for members of the association. We first got the matter of the association settled, then made definite arrangements for purchasing queens for members and prepared a little slip of paper, on one side of which was a listed statement of benefits derived by membership and on the other side an application form ready to be filled out. These leaflets were sent out by thousands in all of the mailing matter which left my office, and gave the beekeepers an opportunity of knowing what the association had to offer, and an easy way of becoming members. I may say in reply to some criticism which has appeared in the beekeeping press that in all this work we have endeavored to present the cause of beekeeping fairly and have made no canvass outside of those who are already beekeepers, so the growth of the association has been a healthy one, gaining its strength as it has from those already engaged in the business.

The apiary inspectors performed their duties as usual and made about one thousand visits to apiaries, finding thirty-five per cent. of the apiaries visited diseased. This is the same percentage as last year, and is really no index of the progress being made, because once apiaries are known to be free from disease these are no longer visited, as our men have their instructions to visit only diseased districts. I am satisfied that good progress is being made in the education of beekeepers for the control of American foul brood and the European variety as well. The latter, however, from the very nature of the cause, is spreading over an increased territory, removing from the ranks of beekeepers those who have been slow to adopt the advanced methods which have been so thoroughly advocated by bulletins, demonstrations, and the press. Some cases have come under our notice where the use of Italian queens and the practice of stimulative feeding has cured this trouble without the destruction of any combs.

Oxford Beekeepers

Mr. William Agar, of the Department of Agriculture, Toronto, was the speaker at a meeting of the Oxford Beekeepers' Association, held in Woodstock in November. His address was listened to with interest and pleasure by a large number of the beekeepers of the county.

Mr. Agar pointed out that the objects of organization were to protect the rights of the beekeepers, to secure good laws, to give out useful information to its members, and to fight against adulteration. According to the speaker, there is a great need for enforcing the pure food law.

EDUCATE THE PUBLIC

There was also a great need for educating the people regarding goods that were pure and those that were not. The speaker strongly urged cooperation among the beekeepers of Ontario; cooperation, in his opinion, not only saving time and money for those who are keeping bees, but rendering a common service as well. That this was so, Mr. Agar proved by the use of several illustrations. He urged those present to stand together and work upon the cooperative plan always.

ELECT OFFICERS

The following officers were elected: President, P. E. Adamson, Mount Elgin; vice-president, Wm. Douglas, Plattsville;

secretary-treasurer, J. Newton, Thamesford.

It was reported that the foul brood which three years ago was very bad in the north section of the county was very bad. The results of a demonstration given some time ago led to a general clean up.

Huron County Notes

Chas. Mitchell, Molesworth, Ont.

Well, what shall I say? When I started beekeeping thirty-seven years ago I wrote considerable and told all I knew. Now I often think I told more than I knew, at least I could not make my board under my old system with our present conditions. I always like to know what the bees are working on. Early in June our bees seemed busy for a few days, and getting very little pollen. I followed them two and a half miles to a tamarack swamp. On close examination I found the leaves were thick in places with a very clear, sticky, sweet substance. I failed to find a single insect or aphid of any sort. I have always stood up for Professor Cook of California, but this has taken some of the wind out of my sails. I would not like to say at present that there is no honey dew formed except by aphids.

CAUSED PARALYSIS

Mr. Holterman seems to think that our bee paralysis comes after a sudden flow of honey. Now, I never saw this appear in early June before. This sudden flow and long flight seemed to cause a partial paralysis of wing power.

I might say that some of our honey producers have got the bad habit of cutting prices away from home. They lost money by it last fall. I am not interested in dear honey, as I have put in thirty-five years trying to school the public to use honey as a food. It is the best sweet in the world, and about the cheapest in the market.

A Prime Article Desired

Mrs. J. M. Munro, Slate River Valley, Ont.

We put up a prime article and ask a good price for it. I wish that all easterners did the same. Honey then would have a better reputation than it has and there would be less prejudice to overcome against a more liberal use of it.

WHO IS TO BLAME?

Whether the beekeeper or the wholesale producehouses are to blame for the stuff that is put out is not for me to say, but it is enough to spoil the industry. I used to suspect the wholesalers might be to blame, but this summer quite a number of former eastern beekeepers have come to the market and I have been surprised how conversant they are with the "tricks of the trade," all the way from "making artificial honey you could not tell from the real" to being very generous with feeding sugar syrup. That is not what people are after. They want the real article and are willing to pay for it.

EFFECT OF MARKET REPORTS

The "market reports" in the farm papers have a tendency to spoil prices as compared with the Associations quotations. The "Farmer's Advocate" of August 14 quoted honey in Toronto market at 12c to 13c for No. 1 clover honey. Which do they mean—wholesale or retail? We naturally conclude it is retail as it is under the heading "Country Produce." The farm journals could do more good to the various agricultural pursuits by giving their respective Association quotations, and leaving each local to tinge the prices of its own locality.

A Hint to Manufacturers

James Sackville, Sr., Bewdley, Ont.

The conviction has been growing in my mind that the beekeepers of this country are at a decided disadvantage in the matter of purchasing high-class supplies. We have not been in the beekeeping business on a large scale compared with many, yet have spent hundreds of dollars on bee supplies, a considerable proportion of which sum went to the United States because we could not get anything on this side of the line to compare with their turnout.

Now, are there no manufacturers or prospective manufacturers in this country prepared to step in and provide beekeepers with up-to-date supplies in all the requirements for comb and extracted honey production? This would require some knowledge (the more thorough the better) of modern methods and some outlay for up-to-date machinery. A friend of mine advised a Canadian manufacturer to go to the Root Co., Medina, Ohio, and offer them one hundred dollars to instruct him how to turn out the best quality of comb foundation. Too many of us are afraid to let the dimes go, and so the dollars are slow to come back.

With these requirements we cannot see why a paying business could not be carried on in this line, and meet the demand of beekeepers nearer home. But if manufacturers cannot turn out up-to-date goods, beekeepers will look elsewhere, and if necessary, send their orders across the line, as we have done, paying 25 per cent. duty.

What Organization Can Do

P. W. Hodgetts, Dir. Fruit Branch, Ont. Dept. of Agri.

Another line of work open to a well organized association is that of aiding in the suppression of disease. With a number of enthusiastic beekeepers scattered throughout a county, each his own inspector, and also interested in the welfare of his neighbor's bees, the provincial apiarist should be able to accomplish ten-fold more in his inspection work than in those counties where he and his men are practically alone in their fight against disease. The very fact that the inspector knows he is working with the cooperation of an organized body of beekeepers behind him is sufficient to spur him on to his best efforts in their behalf.

Of the tariff we would hesitate to speak other than to say that with a high tariff on all our necessities and our luxuries, both for business and home life, with a high tariff on all other food products, it would be foolish for our organizations to advocate other than a high tariff on our own product, honey. When tariffs are cut down or removed on all other lines that affect us, then it will be time for our association to agree to similar treatment in honey. The tariff, therefore, should come under the supervision of the association, and whatever changes are taking place should receive their due share of attention from the tariff-makers.

A movement is on foot to organize a "Canadian National Field Day Meet" of all the beekeeping organizations in Canada, to be held at the apiary of Mr. H. G. Sibbald, Forks-of-the-Credit, Ont. A full report of the progress of the movement will appear in *The Beekeeper* later. It is hoped that the complete programme will be ready for publication in the April and May issues. —Chas. E. Hopper, Secy. I.B.K.A.

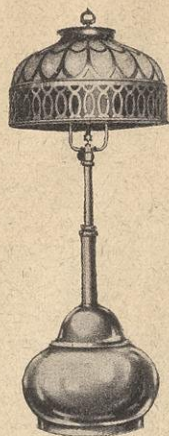


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Nova Scotia

The Nova Scotia Department of Agriculture is determined that the apple mag-gots shall not gain a hold in the orchards of that province. So far this pest has not made its appearance, except in a very few localities. Infested fruit, however, has been coming in from Ontario and the New England states. When preventative measures are taken in time this pest can be controlled. It spreads very slowly, sometimes confining its attack to only a few trees for a number of years. This habit is a very fortunate one. It is hoped that all persons interested in the fruit industry in that province will be on the lookout for this insect and report any appearances to Robert Matheson, the Provincial Entomologist.

Ottawa Flower Guild

The Ottawa Flower Guild continues to progress. At a meeting last fall over forty new members were admitted. The bulbs chosen for this season are Narcissus Trumpet Victoria, Narcissus Trumpet Princeps, and Hyacinth Gigantea. The plants are Whitmanii Fern, Begonea Luminosa and Asparagus Plumosus.

Children up to twelve years of age receive three of each set of bulbs. Children over twelve are given a choice between plants or bulbs. A bulb exhibition will be held in February at which the children will be given an opportunity to compete for prizes. President R. B. Whyte has been giving instructions recently on the growing of bulbs. Marked benefit is following the work of the society.

With one organization handling a large volume of apples it will be possible to secure better terms from the railways.

Douglas Gardens

OAKVILLE, ONT.

A Happy and Prosperous
New Year
To All the Readers of
The
Canadian Horticulturist

Our Spring Planting List will be ready for mailing on the 1st of February.

If not now on our mailing list please send Post Card giving name and address, and a copy will be sent.

JOHN CAVERS



Some Practical Points On Greenhouses

HAS it ever occurred to you that the construction of greenhouses is decidedly different, and that a great deal of the success of your flowers depends on the construction?

Haven't you thought that practically the only difference in greenhouses, aside from design, was the difference in price?

With everything else, isn't there always some one kind that is generally conceded to be better than the rest, and taken as a standard for comparisons?

Then, isn't it only logical it should be so with greenhouses? When other greenhouse builders claim their houses are

"as light as the U-Bar's," it's significant that the U-Bar is the lightest of them all.

If the other builders are constructing their houses with curved eaves as near as possible like the U-Bar's, there must be a distinct advantage in the U-Bar curved eave.

Now, the truth of the matter is: No one can or does

U-BAR GREENHOUSES

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ONE MADISON AVE., NEW YORK

CANADIAN OFFICE, 10 PHILLIPS PLACE, MONTREAL

build a house anything like the U-Bar, because it's a patented construction and we are its sole users.

That it has distinct advantages, greenhouse experts admit. Whether these advantages are worth the difference in cost is a question that you can settle only after a careful comparison.

Before you put any money in a greenhouse, it might be well to go into the matter a bit.

Our catalog will be a great help. To have one of our representatives call would doubtless be the most satisfactory. Which shall it be?

GLORIOUS GARDENS from ENGLAND

KELWAY'S famous Hardy Herbaceous Perennials—Gaillardias, Pyrethrums, Pæonies, Delphiniums and others—are from strong, country-grown stocks which flourish under almost all conditions of soil and climate and make it possible to reproduce successfully in this country much of the charm and beauty of the finest old English gardens.

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This is the Kelway
Book which every
Garden lover should
write for to-day

Ontario Fruit Growers and Transportation

(Continued from page 14)

Our request was for reciprocal demurrage, that is, a system by which the railways as well as the shipper would be fined for delay in unloading, according as one or the other was responsible. The same would apply in the ordering of cars, if cars were not supplied in forty-eight hours, the railways would pay the shipper demurrage for each day's delay thereafter, and if supplied and not loaded in proper time, then the shipper would pay the same rate. Delays in transit or in placing would or should be in the form of a penalty.

By the average demurrage system the charge on all cars held for loading or unloading by shipper or receiver would be computed on the basis of the average time of detention to all such cars released during each calendar month as follows:

First—A credit of one day allowed for each car released within twenty-four hours of free time, and a debit of one day charged for each twenty-four hours beyond the first forty-eight hours of free time.

Second—At the end of the month the total number of days credited will be deducted from the total number of days debited, and one dollar a day charged for the remainder.

In supporting the reciprocal plan, I believe its adoption would be a fair settlement of the question, whereas the average plan would discriminate against the small shipper in favor of the big one. Let the railway as well as the shipper be penalized, but we must be prepared and willing to accept any ruling whereby the service will be improved.

From returns furnished me by shippers who kept records of shipments, as requested, last season, I was enabled to present to the Board accurate data showing losses sustained by shippers through delays in supplying refrigerator cars, etc. Out of forty shippers, requiring one thousand one hundred and eighty-six refrigerator cars, twenty-six experienced delays of from four to thirty-eight days in getting them, and in some instances were compelled to use box cars. An instance may be given of one shipper, who ordered eight refrigerator cars from the M.C.R. Co. on October 24th. He received two on November 28—35 days; one on November 30—thirty-seven days; one December 1st—thirty-eight days; and no more until December 13th. Another ordered six refrigerators from the P.M. Railway Co. on November 4th, and received the first car on December 10th, and so on all through the list.

Regarding delays in transit, the evidence submitted covered everything required by the fruit grower, from the nursery stock to the orchard product, including spray material. On fruit shipments to the western market, Winnipeg shipments travelled as slow as two and three-quarter miles an hour; Brandon, from four and three-quarter to ten miles an hour; Regina, four and three-quarter, five and one-half, and six miles an hour, and several other points about as bad. Conditions at export points were also referred to, instances being quoted where cars were held a full week and more during severe cold weather, and were badly frosted. Fifty-seven shipments of nursery stock by one shipper to points in Ontario, during the month of May, was even acknowledged by the railway representatives to be a most shameful condition of affairs. Some of these required seven-teen days going twenty-three miles, fifteen

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THE BEEKEEPERS' REVIEW

would like very much to enroll a goodly number of new subscribers for the year 1914. Listen! Besides the 3,000-colony series managed from one office, we will begin with the January number of the REVIEW a series of articles by a beekeeper "grey with experience" that we will call the Farmers' Series; or, How to Produce Comb Honey with Two Visits a Year. The editor of the REVIEW has looked into this system quite thoroughly, and believes that, with this method that will be described in the REVIEW during 1914, the busy man or farmer can harvest much more comb honey per colony, with about a fourth the work that is required with the ordinary system now in vogue. We are printing 400 extra sets of the REVIEW for the last half of 1913; and as long as they last they will be included free to all new paid-in-advance subscribers for 1914. All progressive beekeepers should subscribe for two or three good bee journals. We are making a special low price on the REVIEW when clubbed with other bee journals.

There is a { GLEANINGS, one year, \$1.00 } Both, one year, for \$1.50
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We maintain complete stocks in our Toronto store and warehouses to insure immediate delivery of your order.

Our catalogue, "Garden and Lawn," ready about January 1st, lists not only hundreds of vegetables and root crops, but has a complete list of flowers for garden and conservatory.

It gives also many useful hints on planting and cultivating.

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MY BEST FRIEND
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CAKES

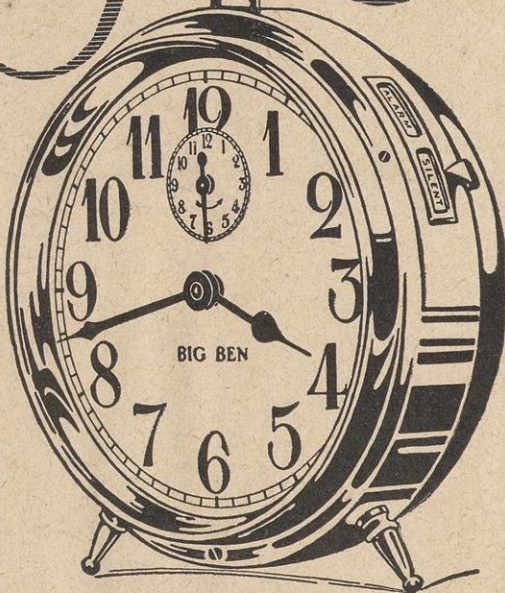


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Hitch Your Sleeping Schedule to Big Ben

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For your accommodation he rings TWO WAYS. He'll get you up by degrees or in a hurry. Set him either way you wish—to give one long five-minute ring, or ten short rings at one-half-minute intervals, until you're wide awake.

He stands 7 inches tall; is triple-nickel plated over a tested implement steel coat, the handsomest and truest thoroughbred in the clock world. He has big, bold numerals and hands that show the time plainly at a glance, large keys that anyone can wind easily, and such a pleasant tone that you are glad to get up when he calls.

Big Ben makes early rising easy. He's the leader of the early morning brigade. His cheerful

"good morning" ring calls millions of live wires to action. Thousands of successful farms are run on a Big Ben schedule. He starts you off right in the morning and keeps you right all day. From "Sun up" to "Lights out" he regulates your day. He'll work for 36 hours at a stretch and overtime, if necessary. The only pay he asks is one drop of oil a year.

He is sturdy and strong—built to last a lifetime. Yet under his dust-proof steel coat is the most delicate "works." That's why his on-the-dot accuracy has won him fame.

Big Ben's wonderful sales are due to his having "made good." His biggest hit has been with folks with the "make good" habit. He stands for success—that's why you'll like him for a friend.

When 3 million families find Big Ben a good clock to buy and 20,000 dealers prove he's a good clock to sell, it's evidence that he is worth \$3.00 of your money. Suppose you trade \$3.00 for him today.

A community of clockmakers stands back of him. Their imprint, Made in La Salle, Illinois, by Waco, is the best alarm-clock insurance you can buy.

days going twenty-eight miles, twenty-two days going thirty-seven miles, twenty-six days going seventy-two miles, etc., throughout the whole fifty-seven shipments. Similar reports to the foregoing were submitted on the placing of carload shipments of fruit after arrival at destination.

In reply to Chairman Drayton's inquiry as to what rate of transit the fruit shipments should be given, my suggestion was ten miles an hour, and I am satisfied this is not an unreasonable request, considering the freight rate, and the volume of business we tender. For instance, between New Orleans, La., and Chicago, for fruit and vegetable shipments, the run is made in fifty-five hours, a distance of nine hundred and twenty-two miles, or an average speed of sixteen miles an hour, while the actual running speed would be greatly in excess of this. The schedule for banana trains between these points is forty-seven hours and thirty minutes, an average of twenty miles an hour. Fruit trains from Southern Illinois are run from Centralia, Ill., to Chicago, two hundred and fifty-two miles, in ten hours and five minutes, about twenty-five miles an hour, and this service dates back as far as 1901. In the district comprising Delaware and the eastern shores of Maryland and Virginia, which ship probably ninety per cent. of its production north of Philadelphia, growers have the accommodations of specially constructed cars for fruit, and a service almost on passenger schedule.

FAST SERVICE ELSEWHERE

From Wilmington, N.C., to New York, fruit trains average better than sixteen miles an hour. Florida, like other southern states, is provided with a special fast freight service for the transportation of fruits, trains making the run between Jacksonville and New York, including all delays, at the rate of over seventeen miles an hour. All through the fruit producing states, we find similar service provided. From the Jacksonville, Palestine and Tyler districts in Texas to New York, one thousand five hundred and twenty-three miles in five days, and even to Montreal we find deliveries of peaches and cantaloupes made for sixth morning market. Between Southern California and New York, three thousand and twenty miles, an average speed of nearly thirteen miles an hour is attained. Washington, Oregon, and Idaho, competitive states in Western Canada with our Ontario producers, also have a special schedule during the heavy movement, and in some instances fruit shipments are handled on passenger trains.

To the great fruit industry of the province, then, the decision of the Railway Commission upon this problem means considerable, as it is a stepping-stone to the more important requirement—that of better service in transit.

We pay high rates because of the perishable nature of our commodity and deserve, therefore, the service for which we pay. The reports now coming in from Ontario shippers are an improvement over last year, but show a serious state of affairs yet. No company obtaining its right of operation from the Government, which in reality is the people, should be allowed to so serve or humbug those who make their operation possible.

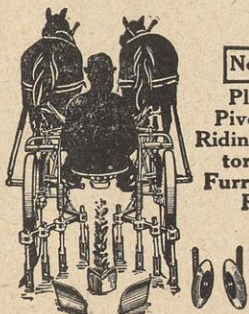
When the decision of the Board will be given, I cannot say. I hoped it would be in time to apply this season, but was advised under date of October 13th, 1913, that it will be some time yet before the question can be disposed of.



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**Planet Jr.
Single
Wheel Hoe,
Cultivator, Rake
and Plow**

The highest type of Single Wheel Hoe made. It is light, handy, and adapted to use by man, woman, or child. Has leaf guard for close work, and a durable steel frame.



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Riding Cultiva-
tor, Plow,
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Ridger**

A wonderful implement in extensive cultivation of corn, potatoes, etc. Light in draft, simple and strong in construction and comfortable to ride upon. Works rows 28 to 44 inches, and cultivates crops until 5 feet high.

Planet Jr.



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Hill and
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Nearly two million soil-tillers all over the world are saving time, lightening labor and getting better results by using Planet Jr. guaranteed farm and garden tools. For all requirements, \$2 to \$100.

FREE Our new 72-page illustrated catalogue describes 60 tools for all kinds of horse and hand cultivation. Write for it today.

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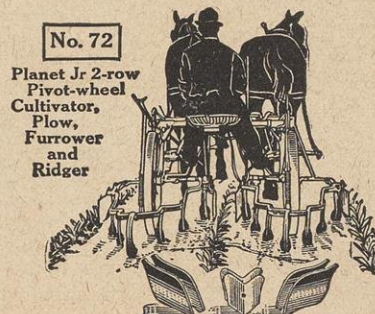
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Plow and
Rake**



The greatest cultivating tool in the world for the grower of garden crops from drilled seeds. It has steel frame. The plow opens furrows for manure, seed, etc., and can be reversed for covering. The cultivating teeth are adapted for deep or shallow work and for marking out. Crops can be worked both sides at once until 20 inches high.



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Pivot-wheel
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Cultivates at one time two rows of potatoes, corn, beans, etc. in rows 28 to 44 inches apart. Works like a charm in check rows, crooked rows, and rows of irregular width. Can be equipped with roller-bearings, spring-trip standards, and discs.

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Have ample storage to hold for improved market.

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GOOD CROPS

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For Satisfaction, Plant St. Riges, Himalaya and Ever Bearing Burn's
Our prices are right and so are the trees. Send for priced catalogue if you have none, also your want list for special prices on Apple Trees. We can please you.

Look over our Price List No Agents

A. G. HULL & SON**NEW COAL OIL LIGHT BEATS ELECTRIC OR GASOLINE****10 Days FREE—Send No Money**

We don't ask you to pay us a cent until you have used this wonderful modern light in your own home for ten days, then you may return it at our expense if not perfectly satisfied. We want you to prove for yourself that it gives five to fifteen times as much light as the ordinary oil lamp; beats electric, gasoline or acetylene. Lights and is put out just like the old oil lamp

BURNS 70 HOURS ON 1 GALLON OIL

Gives a powerful white light, burns common coal oil (kerosene), no odor, smoke or noise, simple, clean, won't explode. Guaranteed.

\$1000.00 Reward

will be given to the person who shows us an oil lamp equal to this Aladdin in every way (details of offer given in our circular). Would we dare make such a challenge to the world if there was the slightest doubt as to the merits of the Aladdin? We want one person in each locality to whom we can refer customers. Write quick for our 10 Day Absolutely Free Trial Proposition, Agents' Wholesale Prices, and learn how to get **ONE FREE**.

MANTLE LAMP CO., 715 Aladdin Bldg., Montreal & Winnipeg**AGENTS WANTED**

to demonstrate in territory where oil lamps are in use. Experience unnecessary. Many agents average five sales a day and make \$300.00 per month. One farmer cleared over \$800.00 in 6 weeks. You can make money evenings and spare time. Write quick for territory and sample.

In conclusion, I beg to submit for consideration, the following recommendation:

(1) That an effort be made to have all navigation companies handling freight, and operating upon Canadian waterways, placed under the jurisdiction of the Railway Commission.

That power be given the Railway Commission to adjudicate claims against railway or express companies not settled in 60 days.

That the Railway Commission be given jurisdiction in the matter of fixing a penalty for rough handling and pilfering of freight and express shipments.

That fruit inspectors be also cargo inspectors.

That the express minimum be reduced from twenty thousand pounds to fifteen thousand pounds.

That, if necessary, the Railway Commission be asked to compel the railway companies to allow free transportation both ways for a man sent in charge of heated cars.

That the railway companies be asked to provide a special fruit train service from central points in Ontario to Winnipeg, during the shipping season.

Packing in Barrels**D. E. Lothian, B. S. A.**

In beginning to pack a barrel of apples, we lay in first of all what is known as the heading, which is the first layer of apples. According to their size the outer ring should consist of fifteen or sixteen, the second ring of ten or eleven, and the third or inner ring of three or four. Apples under that size will be of inferior grade, and may be packed with five in a ring and one in the centre, the centre apple should never be larger than those on the outside of it, otherwise the surface will not be smooth, and when pressure is applied the centre apple will suffer and the package as a whole will not be a tight fit. The stems, if long, should be removed and the stem end placed downward, that is to say, next to the head.

RACKING IMPORTANT

After the first layer has been placed in position the succeeding baskets of fruit should not be allowed to drop into the barrel, but the basket should be lowered close down to the layer and poured in gently. Damage is frequently done by allowing apples to drop even six or seven inches from the surface of the first layer. The damage varies with the particular variety in question. After the addition of each basket the barrel should receive what is known as racking, which consists in giving the barrel a sharp jerk. This allows the apple to settle into a good secure position, hence when the lid is nailed on there is no sinking, and consequent loosening of the package. When the barrel is nearly full a flat board should be applied to smooth the surface.

After the follower has been applied, which is the name used by apple packers for this board which they utilize to smooth out the surface, what is known as tailing may be performed. This consists in finishing the barrel by putting in the last two rows of apples, stem upwards. The top of the last row should be as nearly in line as possible with the chime of the barrel, or if anything, a little higher. The lid may then be applied and the barrel subjected to preferably a hoop press. In nailing on the hoop care should be taken not to drive the nails through so that they will project on the inside of the barrel and so damage the fruit.

TREE PRUNERS**ALL PATENTED****BEST IN QUALITY****EASY TO OPERATE****THE STRONGEST MADE****Happy Thought****Orchard King****Sold by all good Hardware Stores****MADE ONLY BY****TAYLOR-FORBES COMPANY****Limited****GUELPH, ONTARIO****Kansas**

"Wherever Fruit Excels, NIAGARA SPRAYS are Used"

NIAGARA

The spray that makes fruit growing profitable.
The spray that always gives results.
The spray that produces all the prize winners.
The spray used by all successful fruit growers.
If you are not getting the results you should,
don't experiment any longer—
Get in the winning row. Use NIAGARA

SOLUBLE SULPHUR.—The most talked of spray in America. In powder form. Dissolves immediately in cold water. Keeps indefinitely. A 100-lb. can makes more spray than a 600-lb. barrel of Solution. No leakage or loss. No heavy barrel to handle, return or pay for. Easy to mix and apply. No clogging of nozzles. SOLUBLE SULPHUR is a perfect control of San Jose Scale and all other Scales. It is stronger and better Fungicide than Lime-Sulphur Solution. It is cheaper and more efficient than any other spray. SOLUBLE SULPHUR was used by hundreds of growers in Ontario this past season with wonderful results. It will be used by thousands this year. No grower will ever use anything else after using Soluble Sulphur. Our supply is limited. We were forced to disappoint many growers last year. Order now so as to be sure and be supplied.

Remember—Soluble Sulphur is a patented product. It can only be procured from us. Let us send you further information and testimonials from growers and experts you know.

LIME SULPHUR—We will still supply the famous **Niagara Brand**.

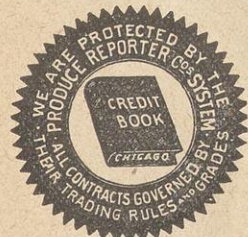
ARSENATE OF LEAD—Swift's Brand—The highest grade only. Everybody says so.

SPRAY PUMPS—Bean and Niagara—Hand and Power. Famous from coast to coast for their High Pressure, Large Capacity, Durability, Efficiency, Low Cost of Maintenance. They are built for work. These pumps will run all day and every day and maintain their uniform high pressure and capacity. Always on the job. Never balk when there is work to do. We would like to send you full particulars of our patented pressure regulator and other special features and testimonials from hundreds of satisfied customers.

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Branch Warehouses:
Sudbury, North Bay,
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Shipping Stamp

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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.

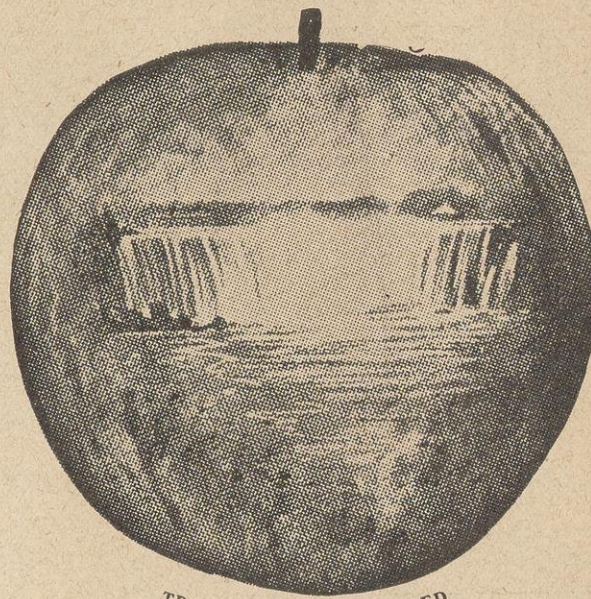
H. PETERS
88 Front St. East, Toronto

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



DON'T PAY FREIGHT ON WATER

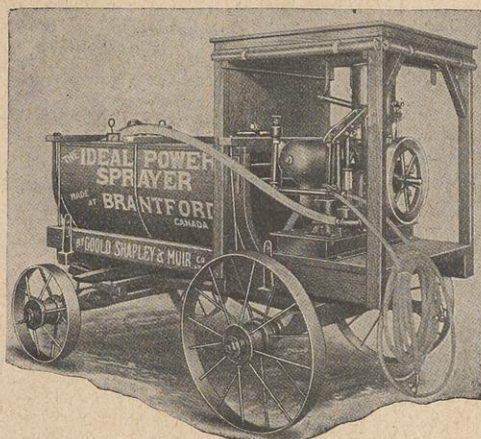
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Catalogues describing our different lines, sent on request

GOOLD, SHAPLEY & MUIR CO. Ltd., Brantford, Ont.

Fruit Growers' Requests

During December Messrs. D. Johnson and G. E. McIntosh, representing the Ontario Fruit Growers' Association and a large delegation of the fruit growers of Lambton County, met J. E. Armstrong, M. P. for East Lambton, at Forest, and laid before him certain complaints regarding railway facilities and service in handling fruit shipments. The resolutions, as approved by the Ontario Association and submitted to Mr. Armstrong, were as follows:

That an effort be made to have all navigation companies handling freight and operating upon Canadian waters placed under the jurisdiction of the railway commission.

That power be given the railway commission to adjudicate claims against steamboats, railway and express companies, which have not been settled in sixty days.

That an amendment be made to the criminal code whereby handlers of perishable shipments will be liable to a fine for rough handling and for pilfering.

That fruit inspectors be also made cargo inspectors.

That where a privilege has been given by a railway company under section 317 of the Railway Act, the railway commission be given power to order the extension of such privilege.

REQUESTS REASONABLE

Mr. Armstrong said he believed the requests reasonable, and he would see they were placed before Parliament, with a view to bring about legislation that would adjust at least some of them.

Mr. Armstrong touched upon a matter that met with approval, that of nationalizing the express companies of Canada. The express companies are demanding six million dollars for handling the parcel post business to be inaugurated very soon, and Mr. Armstrong thought that the Postmaster-General should direct attention to governmental control of the express companies.

Nova Scotia

The annual meeting of the Nova Scotia Fruit Growers' Association will take place at Kentville, January 20th, 21st and 22nd. A three days programme is being prepared. The question of the control of black spot will be especially dealt with.

British Columbia

Developments in the system of fruit production and distribution in British Columbia, which may involve changes in methods now used by the orchardists, are possible as a result of a recent tour of the Pacific coast undertaken by J. Kidston of Vernon, a member of the Provincial Agricultural Commission, and R. M. Winslow, provincial horticulturist and secretary of the B. C. Fruit Growers' Association. They have recently returned from a trip which took them through American fruit growing districts extending from the boundary line south into the heart of the California citrus belt. They interviewed the officers of many growing and selling organizations and secured a large amount of valuable information covering the growing and distribution of deciduous and citrus fruits.

In the orchard districts of the Northwest the idea of close cultivation between trees is not looked upon with general favor, although this method is accepted there in

"FRIEND" Sprayers



Western King

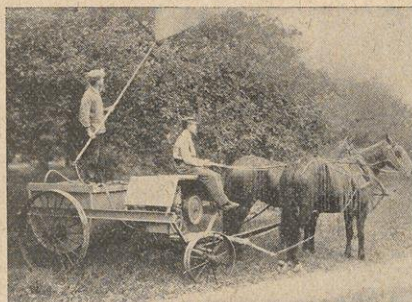
If you have a power sprayer, EXCHANGE engine and pump for our POWERFUL UNIT MOTOR-PUMP and PROPELLER AGITATOR, or sell it and buy a whole new outfit. "FRIEND" outfits are now made in many styles, TO SUIT YOUR TASTE, in-

Mr. Fruit Grower
You have heard of the celebrated

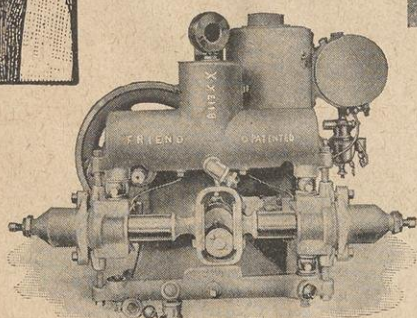
"Friend"
Power Sprayer

But you have not heard of the 1914 MODELS.

Western King
and Queen



Western Queen



The "Friend" Motor-Pump

cluding motor-pumps, & lifts on bed without trucks, and complete machines — built in large and small sizes. The SIMPLEST, MOST COMPACT, MOST POWERFUL and FINEST WORKING power sprayers ever produced. Many Westerns sold in Canada last year to growers who are STaunch FRIENDS this year.

WRITE FOR CATALOG TO-DAY,
STATING REQUIREMENTS.

"FRIEND" MFG. CO., GASPORT, NEW YORK

The question of selecting an Arsenate of Lead for fruit-tree spraying is an important one.

There are a great many brands on the market, but only a few of them have all the requisite characteristics which will make your spraying successful.



THE CANADA PAINT CO.
LIMITED

NEUTRAL ARSENATE OF LEAD (Paste)

This product is soft and fluffy in character and mixes readily with water and other spray mixtures, and stays well in suspension. It is very fine in texture so covers the foliage evenly and goes farther than more granular and coarser Arsenates.

Before putting our new Neutral Arsenate of Lead on the market, we experimented and thoroughly tested it out in practical use, and we are confident here is no superior Arsenate of Lead made. As manufacturers of Arsenate of Lead we have been enabled to make use of a new formula for the manufacture of a Dry, Powdered Arsenate. Hitherto Arsenate of Lead in dry form was not satisfactory but this new product has all the good qualities of a paste Lead and some advantages beside. It is lighter in gravity and more fluffy in texture and so has greater covering qualities. It can be safely carried over from one season to another without deterioration. Probably the greatest advantage is the saving effected in freight charges, as the dry Lead weighs just half the amount of the paste Lead. Ask us for prices on our Paste and Dry Arsenates before you decide on the Lead you will use this year.

THE
CANADA PAINT CO.
LIMITED

PAINT-VARNISH AND DRY COLOR
MAKERS-LINSEED OIL CRUSHERS
MONTREAL-TORONTO-WINNIPEG-CALGARY-HALIFAX
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AMERICA, the standard pink, 1½ in. and up in diameter, \$1.50 per 100.

TACONIC, Lively pink (perfect), 2 in. up, \$4.00 per 100.

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600,000 ft. Belting for Sale, all makes, at ¼ to ½ less than regular value. Also 500,000 ft. Iron Piping, 80,000 rods new Wire Fencing, Rails, Cable, Galvanized Iron, etc., at ¼ to ½ saving. Price list free. Write to
IMPERIAL WASTE & METAL CO.
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Double Cylinder Vertical Pump
with Bronze Plungers.

Tank is made of selected Cypress
put together by Experts.

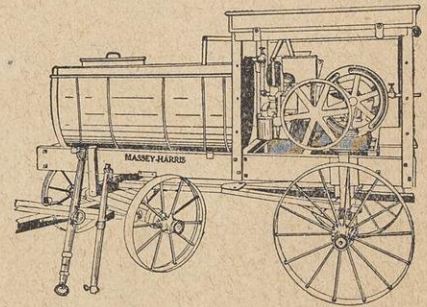
Simple, direct connection between Engine and Pump—No Sprocket
Chains to get tangled up in branches of trees.

Agitator is positive in its action and is operated from the top—No
holes through side of Tank to leak and cause trouble.

The Cab protects all working parts from the solution.

Front Wheels turn under the Frame—Handy in close quarters.

The Engine is described below.



Massey-Harris Gasoline Engines

The Ideal Engines for Spraying and general farm work as they run
in all kinds of weather and under changes of position caused
by working on side hills, etc.

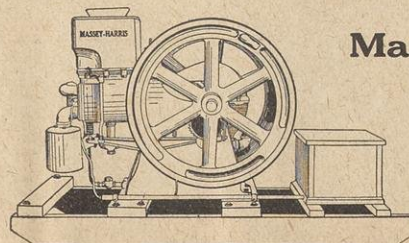
Hopper cooled with exceptionally large water space.

No gaskets or packing about the Cylinder to blow out or leak.

Valves are in Removable Cages—either can be taken out by
removing two Screws.

Carburetor has no moving parts—is simple, effective and
“easy on the Gasoline.”

— 1½ to 20 Horse Power—Stationary, Portable, Semi-Portable. —



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Unique collection. Hundreds of varieties adapted for the Canadian climate. Perennial and perfectly hardy. Own saving. Catalog free.

Perry's Hardy Plant Farm
ENFIELD, MIDDLESEX, ENG.

Roses Roses

Irish, Dutch and American. Hybrid Perpetual, Hybrid Teas and Climbing. Strong 2 year field-grown bushes that will bloom the first year—none better, none cheaper.

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Trees, Shrubs, Vines, Perennials

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Make your garden a blaze of glorious colour from Early Spring to late Autumn. Learn how, from

KELWAY & SON

The Royal Horticulturists
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GREENHOUSES

We Design and Manufacture

Iron Frame, Pipe Frame and All Wood

We Use Only The Best

All Heart Red Gulf Cypress Woodwork

We Also Supply

Ventilating Machinery, Bench Material and all kinds of Greenhouse Hardware

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130-Egg Incubator and Brooder Both For \$13.90

FREIGHT AND DUTY PAID

If ordered together we send both machines for only \$13.90 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Five year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$13.90 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time. Write us today. Don't delay.

WISCONSIN INCUBATOR CO., Box 316, Racine, Wis., U. S. A.

Progressive Jones, Says:

"Good for Your SOIL and Your CROPS"

Your soil will receive the proper plant foods to stimulate your crops and the land will also be nourished if you use

Harab FERTILIZERS

There are other fertilizers which, while they force your crops the first year, impoverish your land and eventually put it in such condition as to be almost worthless. Do not run any risks of this kind. Consider results not only for this year but for many to come.

Harab Fertilizers are true plant foods. They are good for both land and crop.

Be well advised and write to The Harris Abattoir Co. for a copy of their Fertilizer Booklet. That's the first step in the right direction.

Yours for lumber crops
Progressive Jones

The Harris Abattoir Co.

Toronto, Canada

Limited



many instances for young orchards. It is claimed that clean cultivation has the result of permitting the disappearance of humus and thus the soil fertility decreases and the tree foliage turns yellow, the tree's fruitfulness naturally becoming less. In the Yakima and Wenatchee districts the growers have adopted the plan of growing alfalfa between the rows and have found that where this policy was in force for some years orchard production was thereby greatly increased.

In Hood River clover is grown in the orchards with similar results and the deep concern of the grower over this problem of keeping the fertility of the orchard soil is giving place to confidence. In the younger districts in Southern Oregon and Spokane the soil fertility problem as in British Columbia is not yet so acute. It has been found in Hood River that whereas formerly forty thousand dollars worth of hay was imported every year, now there is no importation of hay whatever, the green crops in the orchards being sufficient for hay purposes. This method has resulted in a lower cost of cultivation although more irrigation water has been required. It is considered that a good deal of experimental work will be necessary before it is decided absolutely how far the system of growing alfalfa or clover between the rows of trees may be followed out in British Columbia.

Generally speaking, wages are from twenty to thirty per cent. below those paid in the fruit districts of British Columbia, while the cost of materials, such as boxes, paper, orchard equipment and so forth, was from thirty to forty per cent. lower. Taxes were on the whole higher. The cost of fruit production generally, would seem to be about thirty per cent. lower than in British Columbia. This fact would lead to the conclusion, it is thought, that more general study will have to be given in this province to reducing the cost of growing, packing and marketing.

One difficulty now facing the fruit men of British Columbia lies in the fact that the American growers market their best apples, called "extra fancy," and "fancy," in the high-priced city markets at a figure about twice as high as that obtained for the third grade apples, described as "choice." These "choice" apples are sold at little above cost, the profit being made on the others; nevertheless the third grades are good apples, forming between ten and forty per cent. of the crop. They are in demand on the Canadian prairies, where an extra fancy apple is not desired.

In British Columbia the growers have no large cities in which to sell their finest apples, and the prairies do not seem to desire to pay the extra price for the British Columbia "fancy" and "number ones," consequently, in many cases the British Columbia growers have to put them on to the prairie markets at prices low enough to compete with the American "choice." The duty on apples is only thirteen cents a box, which is not enough to cover the margin of difference. Were the British Columbia growers to find a market willing to absorb the high-priced fruit it could meet the American competition and make money in the same way as followed across the line.

An effort is now being undertaken here to develop a market in Australia where, it is pointed out, there is a demand for the very cheapest apples, but then the advantage of any duty on American apples is lost.

Some attention was paid by the secretary of the B. C. Fruit Growers' Association to the question of fruit marketing. It was

Spraying with proper materials will increase both the quantity and the quality of your crops in orchard and garden.



SPRAYING

A Profitable Investment

A new edition of this book has just been printed for distribution among fruit growers who wish a complete and reliable guide for exterminating insect pests. This book contains 120 pages and many illustrations, regarding the life history of the important insect pests and the best methods of destroying them. Send us your name and address on a post card, asking for the book, we send it free of cost or obligation.

Here are six reasons why it will pay you to use

THE SHERWIN-WILLIAMS Co.
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NEW PROCESS
ARSENATE OF LEAD

1.—It kills all leaf eating insects and is used and recommended by large growers in all the fruit growing districts.

2.—It is a neutral Lead and cannot cause arsenical poisoning of your trees, foliage burning, or fruit russetting.

3.—It is very fine, fluffy and floury in texture so stays well in suspension and

4.—So will give a thorough and uniform distribution over the foliage.

5.—It has a peculiar adhesiveness that enables it to stick to the foliage in spite of rain.

6.—It is sold in both paste, and dry, powdered form, and is very economical in use.



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ANNUAL FEBRUARY SPRAYING NUMBER

OUT FEBRUARY 1st

This is the largest and the most important issue of the year to the Fruit interests of Canada. Thus you will want to reserve your best and biggest copy for it and secure full advantage of this special service.

As usual special articles on Spraying, and other special articles have been secured.

Forms Close January 15th - 25th

Send in space reservation early

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Sulfur Dusters

For Fighting Every Disease of Cultivated Plants

Knapsack, Pack Saddle or Horse Drawn
Power Sprayers

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and particulars to :

VERMOREL
(Rhone), FRANCE

Manufacturer,
VILLEFRANCHE

ENGLISH HAND-MADE LACE

MADE BY THE COTTAGERS OF BUCKINGHAMSHIRE.

This is the old-fashioned lace made on the cushion, and was first introduced into England by the Flemish Refugees. It is still made by the village women in their quaint old way.

Our Laces were awarded the Gold Medal at the Festival of Empire and Imperial Exhibition, Crystal Palace, LONDON, ENGLAND, for general excellence of workmanship.

BUY some of this hand-made Pillow Lace, it lasts MANY times longer than machine made variety, and imparts an air of distinction to the possessor, at the same time supporting the village lace-makers, bringing them little comforts otherwise unobtainable on an agricultural man's wage. Write for descriptive little treatise, entitled "The Pride of North Bucks," containing 200 striking examples of the lace makers' art, and is sent post free to any part of the world. Lace for every purpose can be obtained, and within reach of the most modest purse.



COLLAR—Pure Linen.
\$1.00.



DAINTY HANDKIE—70c.
No. 910.—Lace 1½ in. deep.

Collars, Fronts, Plastrons, Jabots, Yokes, Fichus, Berthes, Handkerchiefs, Stocks, Camisoles, Chemise Sets, Tea Cloths, Table Centres, D'Oylies, Mats, Medallions, Quaker and Peter Pan Sets, etc., from 25c. 60c., \$1.00, \$1.50, \$2.00, up to \$5.00 each. Over 300 designs in yard lace and insertion from 10c., 15c., 25c., 45c., up to \$3.00 per yard.

IRISH CROCHET.

Mrs. Armstrong having over 100 Irish peasant girls connected with her industry, some beautiful examples of Irish hand made laces may be obtained. All work being sold direct from the lace-makers, both the workers and customers derive great advantage.

Every sale, however small, is a support to the industry.



(1½ in. deep.) STOCK—Wheel Design.
Price 25c. each. (Half shown.)



No. 122.—80c. per yard.

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FRUITLAND NURSERIES

are offering for sale a general assortment of first-class Fruit Trees, Bushes, Vines and Ornamental Shrubs, etc., at very low prices. Our catalogues are just out. It will pay you to send for one.

G. M. HILL, Box 42, FRUITLAND, ONT.

Fruit Machinery Co.

INGERSOLL, ONT.

Manufacturers of **Sprayers** and a complete line of

Apple Evaporating Machinery

Installing Power Evaporators a specialty

OUR LEADERS

Ontario Power Sprayer

Model 2-B, and the

Improved Pacific Apple Parer


Write for catalogue on *Spraying and Evaporating*

Dahlia Bulbs for Sale

Order early for spring delivery. All varieties of Dahlia bulbs offered for sale, being the best that money could obtain.

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J. T. Payne Dahlia Specialist Strathroy, Ont.
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Write for Free Book on Spraying

Brown's Auto Spray

use these wonderful sprayers to rid fields, fruit trees, gardens of blight, disease and insects—to make all produce big. Auto Spray No. 1—Capacity 4 Gallons. Auto Pop Nozzle throws from fine mist to drenching stream. Does not clog. 40 styles and sizes of Hand and Power Outfits. Large sprayers fitted with

Non-Clog Atomic Nozzle
only nozzle that will spray any solution for days without clogging. Fits any make of sprayer. Write for valuable **Spraying Guide Free.**
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Large stock of all sizes for the Spring trade.

Send us your order NOW and receive your supply before the Spring rush.

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FINE FIRM FRUIT

Largest crops of high-grade No. 1 fruit can be secured by using **Davies Special Mixed Fertilizers.** This applies to small fruits as well as Orchard fruits. Let us tell you how. Write for free booklet.

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WEST TORONTO
We have an Agent near you

SMALL FRUIT PLANTS

Gooseberries, Josselyn! Josselyn!! Red Jacket, Downing, Pearl, Houghton.—Currants, Perfection, Perfection!! Ruby, Cherry, White Grape, Lee's Prolific, Champion, Black Naples, Victoria.—Raspberries, Herbert! Herbert!! Herbert!!! Outabert, Marlboro, Brinckle's Orange, Golden Queen, Strawberry-Raspberry.—Garden Roots, Asparagus, Rhubarb. Write for Catalogue

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CHEERFUL KITCHEN



BLACK KNIGHT STOVE POLISH

A PASTE NO WASTE

No DUST No RUST

We pay highest Prices For

RAW FURS

And Remit Promptly

Sixty Thousand trappers send us their Raw Furs. Why not you? We pay highest prices and express charges, charge no commission and send money same day goods are received. Millions of dollars are paid trappers each year. Deal with a reliable house. We are the largest in our line in Canada. Write-to-day

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HALLAM'S TRAPPERS GUIDE
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A book of 96 pages, fully illustrated. Game Laws revised to date—tells you how, when and where to trap, bait and traps to use, and many other valuable facts concerning the Raw Fur Industry, also our "Up-to-the-minute" fur quotations, sent **ABSOLUTELY FREE** for the asking.

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Mail Dept. **TORONTO**
111 Front St. East,

found that in the United States the organizations fall into three classes: First, where the growers simply pack and sell to local jobbers; second, where the growers pack and sell f.o.b. cars, thus retaining control of the fruit until shipped. In the third class the growers' organization have selling agencies or brokers to which they consign fruit, or else through auctions upon arrival. In either course, the fruit is generally disposed of to jobbers. There seems little evidence of direct selling to retailers as it is shown that this would demand a great credit system. No serious effort has been made to eliminate the jobber.

The one note of doubt was sounded by the peach growers across the line, who failed to make money this year, even with the shortage in peaches. Thousands of trees are being removed in the peach belts to the south."

Eastern Annapolis Valley

Ernie Buchanan

The weather continues mild and damp, although we had a few days' sleighing in the beginning of December. Mayflowers were gathered as late as December ninth.

The potato crop is very short owing to alternate rains and frosts during the prolonged harvest. For the past few years several apple growers have found it more profitable to buy potatoes for home use than to grow them; now they are finding it a difficult matter to buy them as many of the little growers have only enough for themselves or are holding them for better prices. The present market price is one dollar and sixty cents a barrel at the warehouse. Nova Scotia supplies much of the seed of special varieties of potatoes to Bermuda farmers, who grow three crops a year for American markets. This year they have been disappointed as many barrels of their seed have been frozen in Nova Scotia, and prices have gone up.

Reports from Old Country markets are discouraging, but the low prices may be a blessing in disguise, emphasizing the fact that we need cold storage, and that it neither pays to grow or to ship number three apples. In London the number threes and spotted special twos will not make enough to pay shipping expenses, not counting the trouble and toil of growing them.



Silver black, patched, blue, and red Foxes supplied for stocking fur farms.

\$40.00 per pair paid for sound live Mink

JOHN DOWNHAM, Strathroy, Ont.

SEEDS

**SURE GROWERS
GOVERNMENT TESTED**

Write for Catalogue

Wm. RENNIE Co., Limited

Cor. Adelaide and Jarvis Streets, TORONTO.

Fighting the Railways

The proposed abolition by the Canadian Pacific Railway of certain less than carload and concentrating privileges formerly afforded to the fruit districts near Toronto, occupied part of a session of the Railway Commission during December. The main point at issue was the question of the Railway Board's jurisdiction in the matter. The privileges hitherto afforded by the C.P.R. were those for the movement of fruit in carload lots to distributing centres such as Brighton, Ont., their concentration into carloads there and reshipment, all at a low rate. These the railway proposes to abolish. The Canadian Pacific took the stand that the Railway Commission had no jurisdiction in the matter.

Items of Interest

Experiments with rot in apples, particularly with the dry black spots which appear on the surface of the fruit, are being conducted at St. Catharines by W. A. McCubbin, M.A., of the Dominion Laboratory of Pathology. He is inoculating perfect specimens with the rot to observe the effect. He is also treating the peach tree canker, and has discovered an apparently new rot on tomatoes which he is following up. Mr. McCubbin, who has found that many shade trees in the city are suffering from sores caused by injuries in which a fungus disease gets into the wood and eats it up, recommends painting these sores, as no fungus can thrive under paint.

I read The Canadian Horticulturist with pleasure and profit.—J. D. Murray, Saskatchewan.

Goulds No. 423
A Great Farm
Pump for
General Use.

Avoid Pump-Buying Mistakes

This is one of our latest types—adjustable stroke, force pump standard.

The adjustable stroke adapts the standard for connection to any windmill or pump-jack.

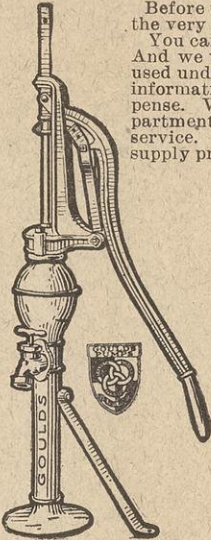
Revolving bearer top permit the lever to be set and operated at any angle with the spout.

Large air chamber gives steady, even flow at spout.

Nut and hose tube spout for connection with garden hose.

Outlet back of spout tapped for iron pipe connection.

Extra strong construction throughout. Ask your dealer for Goulds No. 423.



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RELIABLE
PUMPS

OUTSELL ALL OTHER PUMPS

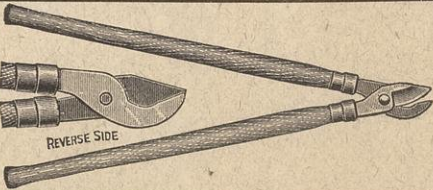
For 65 years Goulds Pumps have been preferred by pump buyers who wanted longest and most satisfactory service. As a result, today we make more pumps than any other concern.

And due to our enormous output, you pay no more for Goulds quality than for pumps of less merit. The best dealers in every locality handle Goulds Reliable Pumps. Look up the one in your section.

HOW TO HAVE RUNNING WATER

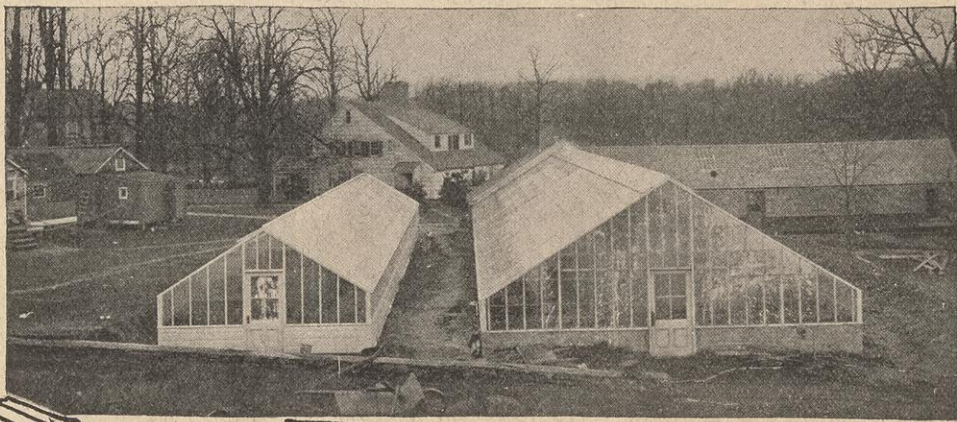
This luxury is possible on your farm. Send for our free book, "Water Supply for Country Homes." It describes and pictures the most practical systems—hand, windmill, power, and hydraulic ram, with the most desirable type of pump necessary. Write for book today.

THE GOULDS MFG. CO., W. Fall St., Seneca Falls, N.Y. Largest Manufacturers of Pumps for Every Purpose



Cronk's Pruning Shears

To introduce a high-grade pruning shear at a very low price, we are now offering direct, provided your dealer does not have them, our 25-inch No. 09½ guaranteed pruner at \$1.25 per pair, via parcel post, prepaid; cash with order. CRONK & CARRIER MFG. CO., ELMIRA, N. Y.



The Greenhouse
As a Paying Proposition

THE assumption that a greenhouse on a private place cannot be made to pay; or that it is an out and out luxury—is a fallacy.

By way of comparison—the man who buys a touring car and devotes it solely to pleasure jaunts and then states that "it is nothing but a continuous bill of expense," certainly is not to be classed with the one who, in addition to the pleasurable side, also uses his car to the undoubted advantage of his business, either direct or indirect.

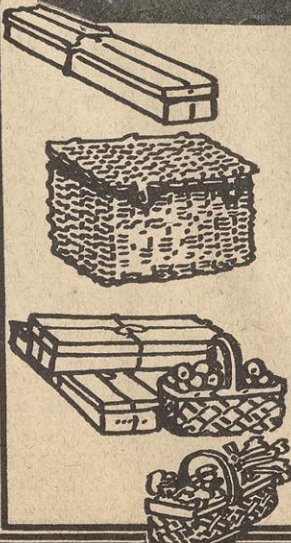
By the same token, greenhouses can be either a delightful expenditure; a combination of pleasure and profit; or

a strictly business proposition.

The owner of the houses above makes his living by furnishing flowers and vegetables to a big city hotel, in addition to a local trade of no mean proportion.

Why don't you investigate the three above named phases and convince yourself that you ought to have a greenhouse?

We will gladly help you in every way by sending our printed matter, suggesting places to visit, or better yet, come right to your home and talk it over. Which shall it be?



Lord & Burnham Co., Ltd., of Canada
Greenhouse Designers and Builders
New York Boston Philadelphia Chicago Rochester
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FOR SALE AND WANTED

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, 30 cents, strictly cash in advance.

ALL KINDS OF FARMS—Fruit farms a specialty.
—W. E. Oalder, Grimsby.

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

RELIABLE HELP, SKILLED AND unskilled, supplied horticulturists and others. Canadian Employment Bureau, Proprietor member of B. G. A., London, England, 65½ James St. South, Hamilton, Ont.

ASK DAWSON. He knows.
IF YOU WANT to sell a farm consult me.
IF YOU WANT to buy a farm consult me.
I HAVE some of the best Fruit, Stock, Grain and Dairy Farms on my list at right prices.
H. W. Dawson Ninety Colborne St. Toronto.

FOR SALE—Large Greenhouse establishment paying big dividends. Over fifty thousand feet of glass, 3 dwelling houses, barns, fruit, etc. Will sell all or part. Owner retiring from business.—Frank Whitehall, R.R. No. 2, London, Ont.

WANTED—100 Colonies of Bees; also a small Farm of 1 to 3 acres, with a cottage, in good bee pasturage.—B. P. Wood, 159 Keele St., Toronto, Ont.

SALMON ARM, Shusway Lake, B.C. has the finest fruit and dairy land in B.C. No irrigation necessary; mild winters, moderate summers, no blizzards or high winds; delightful climate; enormous yields of fruit, vegetables and hay; good fishing; fine boating amidst the most beautiful scenery, and the Salmon Arm fruit has realized 25 cents per box more than other fruit in B.C. Prices of land moderate, and terms to suit. Apply to F. O. Haydock, Salmon Arm, B.C.

RHODES DOUBLE OUT PRUNING SHEAR



Cuts from both sides of limb and does not bruise the bark.

We pay Express charges on all orders. Write for circular and prices.

RHODES MFG. CO.

536 S. Division Ave. GRAND RAPIDS, MICH.

Notice to Horticultural Societies

Give Bezzo's Famous Prize Aster Plants as premiums next spring. Prizes at New York State Fair, 1910-11; Canadian National Exhibition, 1912. Highest awards at Berlin Horticultural Society Exhibitions, 1911-12-13. Write for prices.

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Ex-Superintendent Saxony Royal Gardening Institute Germany
Holder of Gold and Silver Medals

Artistic Plans, Sketches furnished for all kinds of LANDSCAPE CONSTRUCTION WORK.

Ornamental Trees, Shrubs, Conifers, Hardy Perennials, etc.

ASK FOR PRICE LIST

17 Main Str. East - HAMILTON, Ont.

Phone 148

Stanton Kerr, the twelve year old son of W. J. Kerr of Ottawa, secretary of the Ottawa Branch of the Ontario Vegetable Growers' Association, was accidentally killed on Saturday, November 22nd. At the time of the accident the father was in Toronto on a lecturing tour, and the mother had gone into the city. Stanton had been riding one of his father's horses. When he went to alight his foot caught in one of the stirrups, and the horse became frightened and dashed off, dragging and mortally injuring the lad, who expired in a few minutes. Stanton was in every way a promising boy, and the highest hopes for a useful life were entertained by all who knew him.

Ontario Agricultural College

The Fruit Growers' Short Course and Packing School will be held at the Guelph Agricultural College from January 27th to February 6th, inclusive. These short courses are most valuable to experienced fruit growers and also to beginners. The dates for the packing schools, which are entirely separate from the short course proper, are February 2nd to 7th, and February 9th to 14th. The instructors in box and barrel packing will be W. F. Kydd and Mr. Leslie Smith, of the Fruit Branch, Toronto.

Those who may not find it convenient to spend the entire week in the packing school may arrange for two or three days instruction in either the first or second week.

British Columbia

Estimates made in the agricultural department at Victoria of the probable fruit crop of the interior for 1914 indicate that the fruit crop, particularly of apples, will be from one and a half times to twice as large next year, as in 1913, and one of the largest on record.

All records in the rapid transit of fruit were broken in the shipment of two cars of apples, which recently went forward to the Old Country. The apples were exactly eleven days on the journey from Vernon to Liverpool.

The suggestion has been made that the Provincial Government agricultural departments establish pruning classes in the various fruit districts and it is said that the department is now giving serious attention to this question.

A resolution will also be presented at the provincial convention urging the provincial government to appoint a permanent official whose duty it would be to conduct an educational campaign in various parts of British Columbia regarding cooperative marketing and to aid in the formation of organizations.

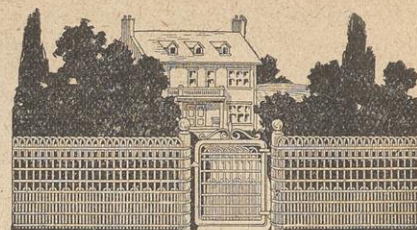
The provincial fruit pests inspector and his assistants have been active during the past year. In a recent fruit condemnation in Vancouver four car loads of apples from Hood River were condemned for codling moth and sent back to the United States.

The Vernon Fruit Union reports that Chinese grow fully two-fifths of the vegetables handled by the Union.

EGGS

EXPRESS PREPAID—all the standard breeds of Chickens, Ducks, Geese and Turkeys. HIGH-CLASS STRAINS. Write today for catalog describing breeds—also poultry supplies. IT'S FREE.

J. H. RUTHERFORD, Box 62
Caledon East, Ontario



Protect Your Property With Peerless Lawn Fencing

Ornamental fencing serves a double purpose. It not only enhances the beauty of your premises, but also protects it and your children, as well. It keeps out marauding animals and trespassers. It protects your lawns and flowers and always gives your property that orderly, pleasing appearance.

Peerless Ornamental Fencing

is the result of years of fence building. It is built to last—to retain its beauty and grace for years to come and should not be confused with the cheap, shoddy fencing offered by catalog houses. Peerless fence is built of strong, stiff wire which will not sag and the heavy galvanizing plus the heavy zinc enamel is the best possible assurance against rust.

Send for Literature

Shows many beautiful designs of fencing suitable for lawns, parks, cemeteries, etc.

Agencies almost everywhere. Agents wanted in unassigned territory.

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Man. Hamilton, Ont.

Send your consignments of APPLES to the Home Country to

Ridley Houlding & Co.

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