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THE CANADIAN HORTICULTURIST

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JULY - 1914
Vol. 37 - No. 7

PETERBORO, ONTARIO

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The Canadian Horticulturist

Regular Edition

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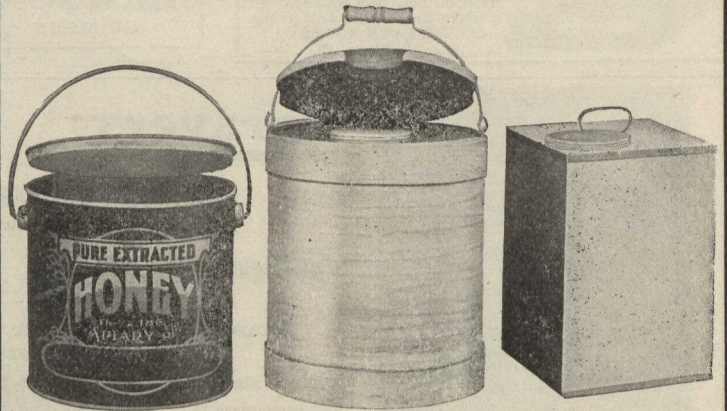
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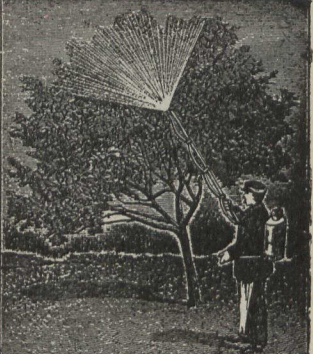
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The Canadian Horticulturist

Vol. XXXVII

JULY, 1914

No. 7

Cover Crops for the Orchard

By J. E. Smith, B. S. A.

A FEW years ago the idea of a cover crop in the orchard was comparatively new to most farmers. For a decade or more a good tough blue grass sod was considered about all that was necessary under the apple trees. One would get apples anyhow, whether the ground received any care or not. This may have been quite true in the earlier days when our soils were richer, and we had a greater rainfall, and the country was less windswept so that the orchard always held a good coating of snow during the winter.

But the day is past when farmers are persuaded that they can raise two good crops on the same piece of ground at the same time. The soil may be rich enough, but the smaller amount of moisture available must result in both crops being stunted. It is impossible to raise a good crop of apples, and a hay or grain crop on the same piece of ground except in cases where we have a wet summer season or the subsoil is particularly moist. Those who have kept close to the apple growing business will readily note the dry texture of the apple grown where the orchard is in sod or grain, and the luscious, juicy texture of the one grown under proper cultivation.

In the mixed farming districts of Ontario where practically no care is yet given to the orchard, the amount of growth of the trees per season is, in many cases, less than half of that in orchards that are well cultivated and pruned. This largely marks the difference between those stunted, thick, close-headed trees that are so common everywhere over Ontario, and those vigorous, clean-barked, big-foliaged orchards that are to be found in our apple districts. The one is the product of neglect—the other that of intelligent care.

The cover crop has a five-fold purpose in the orchard. The clean cultivation of April, May and June allows the tree to forge ahead at a rapid rate, but the growth of the cover crop a little later has the same effect as dry weather, for by drawing the moisture from the soil, and thus from the roots of the tree, it checks excessive or late growth, and in this manner the wood is more fully ripened. This is of supreme importance in

view of the severe winter killing of apple trees during the past few winters. This reduction of soil moisture is of much importance farther north in securing a better color in the fruit.

Again, the cover crop is one of the cheapest means of adding humus, one of the essentials both of our light and our heavy soils. On the light soils, especially the sands of Southern Ontario, this humus is absolutely necessary. On the clay soils, the plowing under of a cover crop is much the same as the application of manure, making the soil much more friable. At the same time the roots of a cover crop hold much plant food, which would otherwise leach away, while the roots of the trees lie dormant. On rolling land it prevents washing, and in exposed districts and in districts of light snowfall, it holds the covering much better than a clean sod, or soil on which there is no plant growth at all.

COVER CROPS PROTECT

Peach trees killed by root freezing during the past few years have largely been those with no cover crop or other protection to hold the snow about their roots. Moreover, the cover crop forms a clean mat in the orchard for the handling of the fruit in the fall.

Cover crops are of two kinds—the

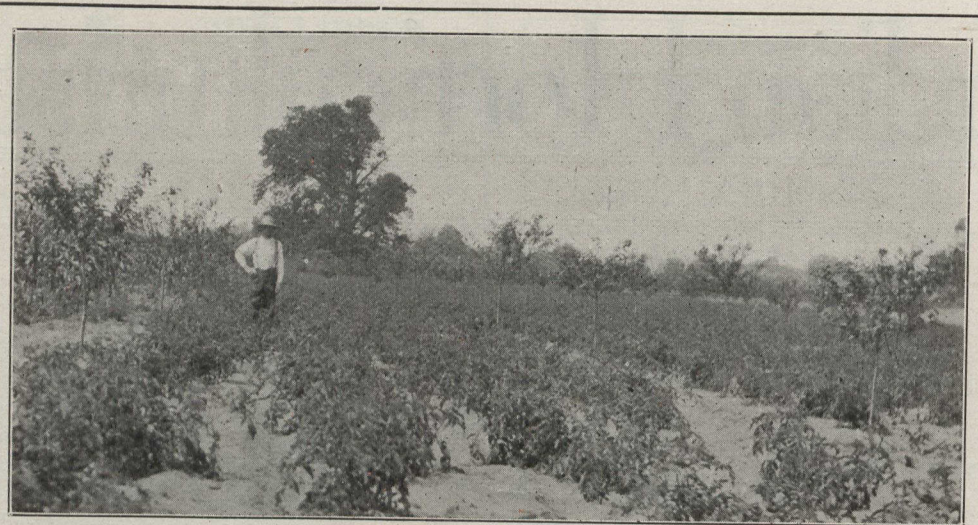
leguminous and non-leguminous. The former are those with the power of gathering nitrogen from the air, and storing it in the little knots on the roots. The leguminous crops used for this purpose are clovers (such as mammoth, red and crimson), cow peas, common field peas and hairy vetch. As nitrogen is the great energizer of plant life a legume should be used where trees lack vigor and vitality. Rye, buckwheat, rape, and oats are the chief non-leguminous ones used in the orchard.

CROP SELECTED

As to what cover crop one should sow depends upon a great many different conditions, such as the age of the trees, the nature of the soil, and the location in the province. Fruit growers who for the first time have broken up the sod under their old trees will find that one of the legumes will give them the best results in stimulating renewed youth in the old trees. In a richer soil where a heavy pruning has been given any of the other cover crops can be used to good advantage, the main point being that whatever is used, it should make a fairly rapid growth during the summer months to take up the excess of moisture, leave the orchard with a clean mat for handling the fruit in the fall, and at the same



Intercropping with Factory Beans in Young Orchard of S. Souden, Simcoe, Ont.



Intercropping with Tomatoes in Orchard of Frank Shearer, Vittoria, Ont.

time give protection by holding the snow in the winter. Where mature trees are clean and vigorous the use of too much of the legumes in the cover crop tends to give an over-production of wood growth. Old trees that have been heavily pruned will invariably throw a great number of suckers the same season. The use of a heavy cover crop will go a long way in checking the growth of these after the summer pruning is done at the end of June or in July.

USE OF CLOVER

In the younger orchards clovers are used to a great extent in shoving forward the young trees. By the use of a clean cultivation followed by an enriching cover crop, together with proper pruning at the right season, many fruit growers tell us they bring their trees into bearing several years earlier than otherwise. Jas. E. Johnson, manager of the Norfolk Fruit Growers' Association, has demonstrated that by skilful orcharding he can bring spy trees into bearing at ten or twelve years of age.

Of course many fruit growers are not satisfied to use cover crops in the young growing orchard. By liberal manuring and judicious inter-cropping many of the best fruit growers are securing large returns per acre, even while the young orchard was coming into maturity. Mr. Samuel Soudan, of Simcoe (a cut of whose young orchard appears herewith), secured a net return of sixty-six dollars per acre by intercropping with canning beans. Similar good results can be secured with strawberries, potatoes, tomatoes, or in fact any crop which will allow of much cultivation, and which does not pull heavily upon the soil moisture in the early part of the season. Many instances are known of where wideawake young fruit growers have paid for their land while the fruit trees were coming into bearing.

During the past few years the following cover crops or combination of cover crops were tried out in Norfolk county, and found to give good results:

First—Peas, one and one-half bushels per acre. This should be sown from the first to the twentieth of June to secure a good growth, as they freeze down with the first frost. They cannot be recommended for the northern part of the province.

Second—Buckwheat two pecks, and hairy vetch twenty-five to thirty pounds. This makes a good combination of a legume and a cereal. The buckwheat makes the rapid growth the first season, while the hairy vetch will make considerable growth in the spring, before being turned under. Some orchard growers object to the use of buckwheat, as the heavy growth in the fall is rather objectionable in harvesting the apple crop.

Third—Rye one-half bushel, and red clover twelve pounds.

Fourth—Rye one-half bushel, and hairy vetch twenty-five to thirty pounds.

Numbers three and four are probably the most popular cover crops in the province to-day, and form one of the best mats for the winter season, while at the same time combining both the legume and the cereal.

Fifth—Rye, one and one quarter bushels. As a single, separate cover crop it is used largely where the soil is not at all rich.

Sixth—Rape, three to five pounds. It is not considered a good cover crop, but many farmers sow it in the older orchards and hog it down later in the fall.

Seventh—Red clover, eighteen pounds.

Eighth—Peas and oats mixed, two bushels. This latter is not used to any extent as a cover crop, but should be a good one in that it gives a rapid growth

right after planting, and forms a good mat to hold the snow. One objection to it is that there is little or no growth from it in the spring. Many orchard growers like a cover crop that will start up again in the spring, and give considerable growth before being plowed down.

Cover crops for southern Ontario as a rule should be sown between July first and August first. For central Ontario the date of sowing should be a couple of weeks earlier. Later sowings give only short growth before winter.

Orchard growers in general should make it a point to have their orchard ground in the very best of condition previous to sowing the cover crop, in order that a good stand may be secured and a heavy growth made as early as possible. In a few orchards of which I know, mouse-eared chickweed grows so rapidly that it is only necessary to stop cultivation in order to have a good cover crop of this weed come on. In another orchard in Norfolk county the soil is so moist that it is kept in sod the whole year round, yet the fruit shows plenty of size, and takes on an excellent color. A few orchard growers in Ontario never make use of a cover crop at all, using clean cultivation the whole season through. About the end of June they heavily roll the land, which causes it to dry out in much the same way as a cover crop would suck away the moisture.

Of course the greatest good cannot be secured from any cover crop, unless the other care of the orchard, such as pruning and spraying receives every attention.

Marketing the Cherry Crop*

IT is when the cherries are ripe for picking that the cherry grower's worries often begin. Poor marketing methods may result in the wiping out of the profits that should result from the work of a year or perhaps several years.

Care should be exercised in picking. The stem must be left on each cherry intended for shipment otherwise the juice would spoil the whole package. If picked for the canning factory or for immediate use, this precaution is not necessary.

PREPARING TO ATTRACT THE TRADE

Shipments are made in eleven quart and in six quart baskets, principally the former. The purchase of the baskets is a serious item of expense. We fill each basket full of carefully selected cherries, then the stems of the top layer are turned under—making a great improvement in the appearance of the package. A sprig of green leaves is also placed on the

*An article prepared some months ago for the *Canadian Horticulturist* by the late W. B. Leavens, Prince Edward Co., who had one of the largest cherry orchards in this province.

fruit; then the cover is put in place and kept there by use of six fasteners. These fasteners hold the baskets firmly together also. An attractive, oval-shaped, bright-red label is put on the end of each basket, announcing that these cherries are from the "Leavens Orchards," of Prince Edward Co. This label serves as a modest advertisement for our fruit, and a guarantee to the purchaser that the contents of the package are what he paid for.

After the orchardist has invested his money in trees and land, has cultivated, pruned and sprayed for a number of years without returns, and he at last has a crop which he thinks will reward him for his trouble, he comes face to face with the proposition which brings failure or success to his venture. His problem is to get sufficient of the consumer's dollars to have a margin of profit on his investment.

Profits from an Apple Orchard*

WHAT returns may be expected from an apple orchard? Whether a definite answer can be given is a debatable question, but a very close approach is the statement of ten years' profits from Aucter orchard near Rochester, N.Y. The experiment was conducted by the Geneva Experiment Station. In a ten-year period any unusual conditions which might arise in a single season would be lost sight of in the general average.

The trees are Baldwins, now thirty seven years old, just entering their prime. For the whole period the average yield per acre was 116 barrels, of which seventy-nine were barrelled stock and thirty-seven evaporator and cider stock. The latter was unusually high because of two heavy windstorms, yet these are to be expected. Reduced to a tree basis the average yield was 4.33 barrels total, 2.93 barrels barrelled stock, and 1.4 barrels evaporator.

INTEREST ON INVESTMENT

Interest on investment is a difficult factor to arrive at. In this case the orchard was valued at \$500 an acre, which at five per cent. is twenty-five dollars an acre or twenty-one cents a barrel for 116 barrels.

Taxes were rated at \$1.50 an acre or 1.2 cents a barrel.

No charge was made for depreciation of outfit, but the orchard was debited with cost of work and workmen which the Station hired. For the average orchard the items would probably be Team, \$400; spraying outfit, \$250; harness, \$50; waggon, \$75; other equipment, \$225; total, \$1,000. At twenty per cent. for depreciation and interest,

I cannot answer the question of direct shipment to the consumer satisfactorily. In a small way one can sell direct to the consumer but with any considerable quantity of perishable fruit, like the cherry, some other means of marketing must be employed. Consumers might help themselves sometimes by clubbing their orders and sending direct to the farm for supplies.

Edison says that it requires fully as much genius to make money out of an article after it is invented as it does to invent it. The same is applicable to fruit production. When we can sell direct to the retailer, in my opinion we are getting as close to the man who eats the fruit as we may reasonably expect, there being then only two bites out of the cherry between the orchard and the table, those of the express companies that convey, and the shop keeper who distributes.

seventeen cents a barrel would need to be added to the cost.

The annual cost of tillage was \$7.39, an acre, equal to 6.3 cents a barrel. The orchard was plowed each spring, rolled and then harrowed an average of seven times each season. Teaming was hired at \$4.50 a day. The cover crop was usually red clover, the seed of which cost \$2.74 an acre or 2.3 cents a barrel.

Pruning was done at a cost of \$3.56 a year per acre—equal to 13.1 cents a tree or three cents a barrel of apples. The wages paid for labor was two dollars a day of ten hours.

The Station paid three hundred dollars a year for superintendence of the work.

This is equal to thirty dollars an acre, \$1.10 a tree, and twenty-five cents a barrel.

The apples were sorted and packed in the field, then hauled one and one-half miles over a country road to the station. For these operations 24.4 cents a barrel was allowed. Barrels were purchased at an average price of thirty six cents.

COST OF BARREL OF APPLES

From the foregoing data the cost of a barrel of apples at the shipping point is compiled as follows:

| | |
|------------------------------|--------|
| Interest on investment | \$0.21 |
| Taxes | .012 |
| Tilling | .063 |
| Pruning | .03 |
| Spraying | .096 |
| Cover crop | .023 |
| Superintending orchard | .25 |
| Picking, packing, hauling... | .244 |
| Cost of barrel | .36 |

Total\$1.29

During the ten years the average price received for barrelled stock, which includes firsts and seconds, was \$2.60. For evaporator and cider stock seventy-two cents was received. Subtracting \$1.29, the cost of production, from \$2.60, the selling price, there remains a profit of \$1.31 a barrel for firsts and seconds. Multiplying by seventy-nine the number of barrels an acre, there was a net profit of \$103.49 an acre for barrelled stock. No barrels were required for the evaporator stock, which cost ninety-three cents a barrel. As these sold at seventy-two cents a barrel, there was a net loss of twenty one cents on each of the thirty-seven barrels, or \$7.89



Sorting and Packing Cherries at Hillcrest Orchards, Kentville, N. S.

*Summary of a bulletin by U. P. Hedrick, of the Geneva Experiment Station, N.Y.



Thinning in Nicholl Orchard, Welcome, Ont.

an acre. The average net profit then was \$95.60 an acre for ten years. Adding to this the twenty-five dollars an acre charge for interest on investment, the actual annual dividend has been \$120.60 an acre, or 24.12 per cent on \$500.

The author of the bulletin from which this summary is taken states as his opinion that the profit is greater than the average orchardist receives, but it is not abnormal for a well cared for orchard.

Cultivating the Young Orchard

B. H. C. Blanchard, Hants Co., N.S.

Too much stress cannot be laid upon the importance of cultivating the young, growing orchard. In most young orchards intercropping is practised. If the crop be a hoed crop or small fruits, the orchard trees probably get their share of cultivation. But if the intercrop be grain or hay such is not always the case.

Not many orchardists allow a crop of hay or grain to grow up close to the trees; a space of several feet is usually left clear on each side of the rows, but not a few neglect to cultivate this uncropped area. In our own orchard more than a year ago we were treated to an object lesson of the value of cultivation.

This orchard was planted three years ago. Each tree received a dressing of farmyard manure at planting time. In spite of a dry season the loss was less than three per cent. Between the trees were turnips and mangels; adjoining was a field of grain seeded down. The orchard received cultivation during the

summer, and in the fall we applied another dressing of manure.

The next year we intercropped with strawberries, potatoes and mangels and cultivated as before. The row next to the hay field was an exception. This row was cultivated on the side next to the root crop, but the hay was allowed to grow close up to the trees on the other side. As the season advanced it became evident that this particular row was not making the same growth that the others were. The leaves had less color and the trees as a lot had a less thrifty appearance.

Aside from cultivation all the trees received the same treatment. During the

summer they received an application of ammonium sulphate. To us the condition of these trees was ample proof that a growing orchard should not be expected to flourish when proper cultivation is lacking or when it is obliged to dispute with a crop of hay for its food supply.

Cultivation late in the season is not advisable, as the growth made may not mature early enough and injury result. But during the summer growing season cultivation is essential to place the plant food in the most available form and conserve soil moisture. It is false economy to give the young orchard anything but the very best attention.

The Why of Summer Pruning

F. W. Brady, Canning, N. S.

THE object of summer pruning is to increase the number of fruit spurs and fruit buds. A common fault with much of the pruning of young trees that is done is that all the suckers are cut off, leaving a long bare stem.

This is bad practice for two reasons. First, there are no fruit spurs on the lower parts of the limbs and consequently the area upon which the tree can bear fruit is limited to a portion of the outer end of the branches. Second, the leverage produced by the fruit being at the end of the branches is so great that they either lie on the ground and the fruit becomes soiled or else they break because of the load.

WINTER PRUNING AN AID

It is often possible to correct this fault by cutting back severely in the winter or early spring. This forces adventitious buds or causes those that have been dormant to grow. When a good growth of water sprouts, or suckers as they are sometimes called, has been obtained in this way they may be pinched back. Thus fruit spurs will be produced upon the limbs near the trunk, which is the proper place for them.

The time for summer pruning depends upon the climate and period of growth. Pruning in June will not be effective if there is a period of growth after the summer dry spell. Instead of fruit spurs many branches will be formed on the limbs. Under such conditions pruning must be done later. If, however, the season of growth ends in June, pruning in the latter part of that month is usually effective.

DEPENDS ON FOOD SUPPLY

The physiology of summer pruning is a matter of food supply. The food that is being prepared for the buds of next year would naturally pass on to the leaves. But as the terminal leaves of a pinched stem have been removed, the food is stored at the end of the stem.

Thus at this point a strong fruit bud is usually secured. As a fruit bud is only a better fed leaf bud the reason is at once apparent. I might state that four years' experience in British Columbia had convinced me that the western man is more keenly alive to this fact than is his eastern brother.

The method just outlined is intended for young trees. For old stock a simpler plan may be adopted—pinching back late in the growing season. The food will be stored in the remaining wood and the growth of fruit buds encouraged.

The larva of the Lesser Peach Borer looks like that of the ordinary Peach Borer and the adult also resembles it, but the female has not the orange band around the abdomen. The life history of both insects is very similar. The main difference is that the Lesser Peach Borer attacks chiefly above ground, including the larger branches as well as the trunk. It regularly enters only where there has been a wound. This suggests that the proper means of control is to dig out the larvae when present, and endeavor by careful pruning and orchard practice to have as few wounds on the trees as possible. Where wounds are made they should, so far as practicable, be cleaned out with a knife and painted with white paint diluted with linseed oil. This insect as a rule is not very common. It attacks cherry and plum trees, as well as peaches.—Prof. L. Caesar Provincial Entomologist, Ontario.

Many of our best varieties of strawberries have pistillate or imperfect flowers, and one must be careful to provide staminate or perfect-flowering varieties close to them. The beds of staminate and pistillate varieties could alternate; that is, five rows of one, then the path, and five rows of the other.—W. A. Dier, Ottawa, Ont.

Some Impressions of a St. Catharines Garden

ST. CATHARINES is a city that can boast of many fine gardens and lawns. Situated as it is in the heart of the best tender fruit district of Canada, one might expect to find, and does find, gardening brought to a high state of perfection.

Probably the most extensive and in many respects the finest garden in the city, is that of Dr. Merritt of Rodman Hall. Last summer a representative of The Canadian Horticulturist had an opportunity to visit and admire the Rodman Hall gardens. The training that Mr. S. Clark, the gardener, has received in the Old Land is evidenced in the careful cultivation and attention which the grounds receive at his hands. At the 1913 St. Catharines Fruit and Flower Show fourteen firsts were awarded to the products of the Rodman Hall gardens. These included a collection of ten foliage plants, six foreign ferns (among which was a fine bird's nest fern and also a stag's horn), adiantums, dracenas, begonias, and collections of annuals.

NATURAL ADVANTAGES

The grounds are admirably adapted for a residence and when originally laid out full opportunity was taken of the natural advantages. Extending to one side and back of the house are four acres of lawn and garden. From the flower garden one obtains a magnificent view overlooking the Twelve Mile Creek.

The lawn proper is about two acres in extent. Among the trees are some fine specimens of tulip tree, catalpa and paulonia. Directly behind the house is a smaller expanse of lawn. Extending beyond and to one side of the latter is the flower garden. From the house a walk winds among the beds which contain some of the finest examples of bedding to be found in the city—sub-tropical bedding, carpet bedding and the more general run of carpet schemes.

THE KITCHEN GARDEN

From the flower garden we passed through an archway in the neatly trimmed privet hedge, which surrounds the vegetable garden at the rear. This kitchen garden of one and a half acres, is laid out in English style. It is a splendid example of intensive cultivation as the ground is cropped twice each season. Extending through the centre of the garden is the main walk which is edged on either side by an herbaceous border. The other walks are edged with the old fashioned box hedge.

All the herbaceous plants are in the two borders mentioned which are one hundred and twenty-five yards long. A plant being tested out is the Montbretia. Its hardiness is being ascertained, and should it prove resistant the Montbretia

will be a valuable acquisition. At the corners of some of the beds pyramid trained pear trees effect a relief.

TOMATOES A SPECIALTY

A specialty is made of tomatoes, which are trained on trellises. About one hundred and fifty plants, giving half a ton of fruit, are grown each year. Onions are another specialty. This season an exceptionally good crop of peas was raised. Sutton's Excelsior proved the most satisfactory variety. Some fine English gooseberries also figure in the selection.

An interesting novelty was a tomato-potato combination. A tomato stem was grafted on a potato plant. The former bore several trusses of fine tomatoes, while the roots of the latter produced a number of fine tubers. We believe the practice is fairly common among French gardeners. The fact that both plants belong to the nightshade family accounts

for the readiness with which they may be grafted.

THE GREENHOUSES

In the kitchen garden are three greenhouses, each one hundred by twenty feet, which are devoted to the culture of ferns, foliage and flowering plants. Recently more attention has been paid to the growing of roses. Two smaller houses are utilized during early spring for the growing of bedding stock and in the summer for the production of English cucumbers. These houses produced the cucumbers that won first prize at Ottawa last year.

Grapes are grown under glass in two graperies, each thirty feet long. From these houses come the grapes which were so well commented upon at the Canadian National Exhibition last year, and which were judged by some to be the finest ever shown at Toronto. At the St. Catharines show fruit from these graperies was first in its class.—B.H.C.B.

Preparations for the Perennial Border

H. Gibson, Tuxedo Park

THE latter half of July is a suitable time to sow seeds of any plants that are required for planting to permanent quarters, the latter part of September. A shady corner containing good earth or a cold frame is the best place in which to sow the seed. The soil should be of a friable nature and worked up finely. Sowing in drills is preferable to broadcasting the seed, as the different varieties are less likely to get mixed.

Draw the drills an inch deep, and sow as evenly and thinly as possible. Thick sowing tends to overcrowding at an early stage. Cover the seed with fine earth, and then water with a fine rose on the watering can. Care should be taken to label each variety correctly so as to avoid future disappointment and delay.

During the hot, dry days some shade from the direct rays of the sun will be necessary to prevent too rapid evapora-



The Residence and Lawn, Rodman Hall, St. Catharines, Ont.



Walk with Herbaceous Border through Vegetable Garden, Rodman Hall

ation. This can easily be accomplished where a cold frame has been used by making an awning of cheese cloth or mosquito netting. A similar arrangement may be devised where the seeds have been sown in an open border.

When the seedlings are large enough to handle they should be transplanted three or four inches apart into nursery beds. With good cultivation they will

grow into desirable specimens for permanent planting.

It is essential that grouping or massing of individual varieties be practised when planting into permanent quarters. A group of plants of definite form, habit and color are far more effective and pleasing to the eye than an indiscriminate planting of miscellaneous varieties.

Rochester, the City of Parks

THE recent trip of the St. Thomas horticulturists to Rochester, was one of much interest, the visitors seeing much, thanks to the courtesy of the Rochester officials.

On Sunday, May 24th, the party was taken in tow at Highland Park, alternately by A. B. Lamberton, superintendent of parks; J. Dunbar, assistant superintendent, and C. Sullivan, the manager of Highland Park. Standing on the brow of the hill one has a good view of the magnificent collection of lilacs, of which there are two hundred and eighty-six varieties, the name of each variety being painted on a sign at the foot of the plant.

Great beds of tulips proudly held blossoms up high as the visitors passed by. The party were informed that this had not been a good year for tulips as three-fourths of some varieties were "blind," the complaint being general over an area of hundreds of miles.

There were many beds of different kinds of azaleas, four hundred varieties of peonies, many varieties of rhododendrons, some of them very rare; magnolias by the hundred, some fine pansy beds, one of them sixty by fifteen feet. The conservatory contains hundreds of tropical and semi-tropical plants.

Highland Park also includes Hemlock reservoir, which furnishes the city water supply. In the centre of the reservoir can be seen a fountain throwing the crystal water to a height of about twenty feet.

A movement is now under consideration to find means to purchase a few of the most important shrubs seen at Highland Park, which will be the beginning of a scheme to make St. Thomas a miniature Rochester.

On Monday the local party were joined by sixty members of the St. Catharines Horticultural Society, marshalled by Ald. W. B. Burgoyne, proprietor of the St. Catharines Standard, and Thos. J. Holden, city editor of the same paper. They were eager to see everything pertaining to horticulture.

The Durand-Eastman Park of four hundred and eighty-four acres, is one of the latest of Rochester's breathing places. Deer and other wild animals have been placed in this park. It extends along the shore of Lake Ontario for nearly a mile. The next place of interest was Maplewood Park. In it there is a beautiful grove in which is a fully equipped playground and a handsome bandstand. Seneca Park of two hundred and eleven acres, was the next spot visited. This park has an extensive zoo, a children's

playground, a swimming hole, and a baseball diamond.

In addition to the parks mentioned here there are twenty small parks varying in size from a thousand square feet to fifteen acres. There was not enough time left at the disposal of the party to visit the beautiful Genesee Valley Park of five hundred and thirty-six acres, where the annual water carnival is held.

The city spends \$190,000 per annum on parks and \$11,000 a year on municipal music.

Rev. Father West, who was an interested visitor, remarked that living in such beautiful surroundings has a most pronounced influence over the morals of the people and that the effect of the horticultural splendor could be noted in those with whom they came in contact. Cities are measured to-day more than ever before by the happiness of the people, and that city is greatest which gives to its citizens the most in protection, education, recreation, amusement and beauty.

There will be an effort by the St. Thomas and St. Catharines Societies to have excursions organized next year at many points in Ontario, all to converge at Buffalo and to run by special train to Rochester, where the Chamber of Commerce will arrange a royal time for the combined parties.—St. Thomas Times.

Exhibiting Sweet Peas

Ernest Heggs, Hamilton, Ont.

If you are planning to exhibit some of your sweet peas and have to ship them, or if you would like to send some to a friend, a wooden box four to six inches deep and eighteen inches long will be found admirable to pack them in. Give the blooms at least one hour in water before packing them. Do not use any damp moss. Remember, they have the moisture in their stems.

Pack them dry, and place soft tissue paper over each layer. Do not be nervous about crushing the blooms, as the tighter you pack them, the fresher they will be when they have reached their destination. When they arrive put them in water, and place them in the darkest place you can find, for an hour; and they should be none the worse for their journey.

The setting of sweet peas is an art in itself, in connection with which there are one or two points to which I should like to refer. Always have something inside your vases to hold the stems where you want to place them. A good method is to get some coarse grasses and bind the stems with raffia or cotton so as to fit tightly inside the vase. Cut the ends with a sharp knife so as to leave them about an inch from the top of the vase.

By doing this you not only hold the stems in position, but you are able to give a more graceful effect.

Seasonable Paragraphs for the Gardener

CULTIVATION and watering are the two important operations in the garden during July. Thorough cultivation keeps down weeds and conserves moisture. It is a fact that a crop of weeds will evaporate more moisture from the soil than will be lost from the bare surface, provided the surface soil is kept loosened.

When watering give the ground a good soaking. A little may do more harm than none at all. It soaks down into the soil just far enough to make continuous capillary attraction, and when the surface soil becomes dry from evaporation the water rises from the lower levels, a continuous loss resulting.

Iris may soon be transplanted. This is an easily grown plant, having many delightful varieties.

Sweet peas are at their best in July. Keep the blossoms picked to prolong blooming. If a few very choice flowers are desired disbudding may be practiced and only the best buds allowed to mature. All seed pods should be kept picked off.

Don't think that because the increased growth which the flowers are making hides the weeds that weeding may be discontinued. Keep the garden cleaned up; it will look much neater.

Plants that have been in pots outdoors can be re-potted and established for winter flowers.

Some of the early planted flowers will be through blooming before the end of the season. There is plenty of time to sow seeds for late flowers.

Pansy and mignonette are two suitable flowers to plant just now.

Are you getting the maximum results from your garden by practicing a proper rotation? Take the time to make a good survey and plan to fill in the blanks that will soon be appearing.

Now is the time to study color effects and mass arrangements and find where improvements can be made for next year.

The pansies should be close picked for best results.

Seeds of perennials, such as hollyhock, columbine, larkspur, and foxglove may be sown now. As soon as large enough, transplant the seedlings to flats, protect them during the winter by putting them in a cold frame and covering with straw. Cover the frame with sash or shutters to keep the plants from becoming wet. They may then be planted out as soon as the garden is in condition in the spring.

After the raspberries have been picked prune the young, growing canes back to the proper height so that they will bush out well and not grow too spindly.

Keep a sharp look out for all insects.

Soap washes are effective for the sucking varieties while hellebore makes a suitable lunch for biting kinds.

If you have some fruit trees that have set heavily don't be afraid to thin. The increased size and the quality of the fruit will well repay you.

July is usually both hot and dry and the lawn should receive careful attention. Give plenty of water and do not cut too close.

Gladioli bulbs may be planted now for fall flowering.

When planting late annuals select a cool, moist place.

THE VEGETABLE GARDEN

Do not despair because you were not able to get as large a garden planted this spring as you intended. There is still time to plant peas, radish, beans, Swiss chard, beets, lettuce, carrots, in fact any of the vegetables that do not require the full season for growth. More water will need to be applied than to the spring sowings.

Don't be tempted to lie back and take things easy just because the garden is all planted. The weeds never rest and the drought may be long.

Late celery may still be set out. Boston Market, of the green celeries, and Golden Self-Blanching are good varieties.

If cut worms are giving trouble try the poisoned bran remedy. Mix fifty parts of bran with one part of Paris green. Moisten just sufficient that the Paris green will adhere to the bran. Spread this mixture about where the cutworms are doing the damage.

Remember that potato beetles are partial to egg plant and sometimes to tomatoes.

Shading the lettuce with cheese cloth, newspaper or by some other means, will prolong its usefulness.

Are ants spoiling the lawn? Get some carbon bisulphide from a druggist, make a hole or two in the ant hill with a broom stick, pour in a teaspoonful of the carbon bisulphide and cover with heavy sacking. This substance is highly inflammable and should be kept away from the fire.

Place a shingle or bit of board under the muskmelons to prevent them rotting.

Tomatoes will yield better if the plants are tied to stakes and some of the buds pruned off.

Frequent hoeing forms a dust mulch that prevents loss of water from evaporation.

Vegetables, particularly cabbage, beans and cauliflower, are subject to wilts and rots which are caused by bacteria. Care should be exercised when cultivating, especially when the plants are wet, not to injure them, as the bacteria gain entrance through wounds. Insects also serve as carriers. Fungi may give rise to secondary diseases.

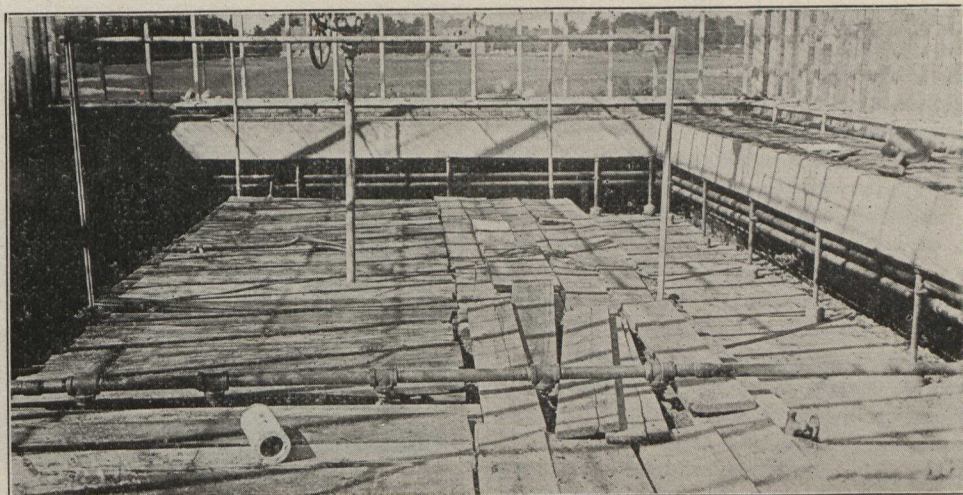
Nitrate of soda is a splendid stimulant to all vegetables.

Preparations will need to be made for blanching the celery. This may be done by placing boards on each side of the row or by heaping earth against the plants. Care must be taken to keep the earth out of the crown.

For bleaching a few individual plants, nothing is better than four inch drain tile. Tie the leaves loosely together with soft twine and slip the tile down over.

Don't leave the refuse from the vegetables already used lying about on the ground. Put it in the compost heap or get rid of it in some way. Refuse makes a splendid breeding place for insects and fungus diseases.

Be liberal with the water during the hot weather that may be expected.



A Method for Sterilizing Greenhouse Soil with Steam

Specific Diseases of Ginseng

Prof. J. E. Howitt

A VERY common and very wide-spread disease of ginseng is the alternaria blight. It is found in nearly every ginseng garden, and once the causal fungus becomes established its eradication is almost impossible. This disease attacks all parts of the plant above ground. The first indications of the disease are dark brown spots on the stems; later spots appear upon the leaves. These are half an inch or more in diameter, and in the early stage have a water soaked appearance, but later become dry and papery, with broad, rusty-brown margins. Very often these spots run into each other and the whole leaf becomes involved and withers. The stems often rot and fall over. If the diseased stems are examined, upon the surface will be noticed a velvety brown coating due to the presence of immense numbers of fungus spores.

ERADICATING THE DISEASE

Sanitary measures, such as the removal and the destruction of the diseased tops, the burning over of the beds in the autumn or the spraying of the surface with a strong copper sulphate solution (one pound of copper sulphate to five or ten gallons of water) will do much to hold this disease in check, but cannot be relied upon to prevent loss when conditions favorable to the development of the fungus occur. Protecting plants from infection by the Alternaria Fungus by spraying them with some good fungicide is the only sure way of preventing loss. Growers differ in their opinion as to what is the best fungicide for spraying ginseng. In the United States Bordeaux mixture has been found to give good results. Pyrox, which is a combined fungicide and insecticide, being constituted largely of Bordeaux and lead arsenate mixed together, has been found by some growers to give better results than Bordeaux mixture. Mr. Peter Menzies, the veteran ginseng grower, claims to have had good results by spraying with lime-sulphur of the strength of one gallon to forty gallons of water. Whatever fungicide is used, the success obtained will largely depend upon its thorough and timely application. The time to spray to prevent Alternaria Blight is just before a rain and not just after a rain as many growers seem to think. The fungus which causes the blight only gains entrance to the plants during rainy and cloudy weather when the plants are saturated with moisture, and thus it is important if infection is to be prevented to have the plants covered with a fungicide at such times. Thorough work can only be done with a nozzle giving a fine

mist and with a pump which gives a pressure of not less than sixty pounds. Professor Whetzel of Cornell University, says: "The most important times at which to spray to prevent Alternaria Blight are just when the plants are coming up and expanding; when the leaves are fully expanded; just before the blossoms open; just as the berries begin to enlarge and just before the berries begin to color."

RUST, FIBRE ROT OR END ROT

Rust or Fibre Rot is a very serious fungus disease of ginseng; it sometimes causes more loss than the Alternaria Blight. The symptoms of this disease vary very much with the age of the plants and the character of the weather. In seedlings the most noticeable symptoms during a dry season are the gradual change in the color of the leaves from dark healthy green to a sickly light green, followed by a premature coloring in shades of red and yellow. Later, the leaflets wither and the stems wilt. In damp weather the color changes are not so marked and wilting is more sudden, the seedlings toppling over and the tops remaining green. If the roots of the diseased seedlings are examined, the fibres will be found to be brown and rotted. Very often all the fibres of a root will be completely destroyed, giving the root a trimmed up appearance. On the larger roots rust spots are noticed, and frequently pocks and scars. These are often superficial, but sometimes extend deep into the flesh of the roots.

Applications of acid phosphate at the rate of from one thousand to two thousand pounds per acre are recommended for the control of this disease. Acid phosphate is now quite extensively used by the ginseng growers in the United States and has been found by many to greatly reduce the amount of rust. Sterilization of the soil with steam or formalin is recommended for seedling beds or for old beds that are to be reset.

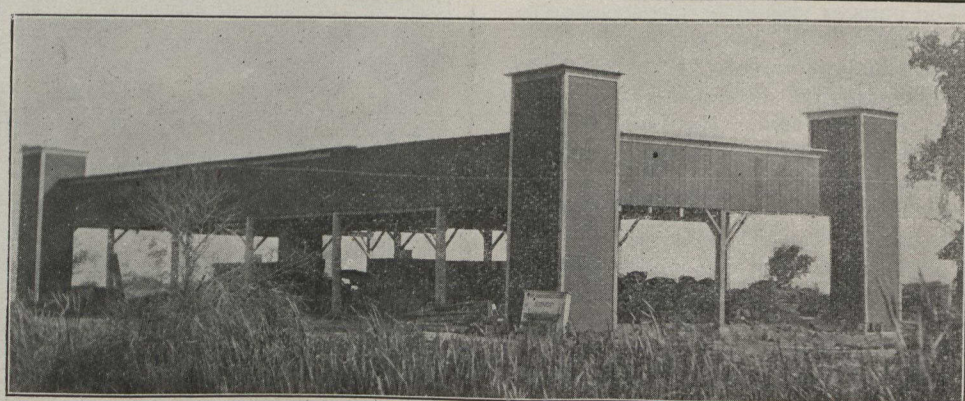
Phytophthora Mildew is a fungus disease which up to the present time has not troubled ginseng growers in Ontario, but as it has proved quite troublesome to Michigan growers it is advisable that a careful watch should be kept for it. The symptoms of this disease are very likely to be confused with the symptoms of Alternaria Blight. The most common symptom is the drooping of the leaflets of one of the leaves down around the petiole. Another noticeable symptom is the killing of the basis of the leaf stalks where they join the stem, causing the leaves to droop and die along the stem. But these symptoms are also characteristic of Alternaria Blight, but in the case of this disease the dead stems are covered by a brown velvety covering of spores, while stems attacked by mildew show in the early stages an almost indiscernible silvery-white coating due to the presence of the spores of the causal organism. This coating, however, soon disappears and the diseased parts become soft and slimy especially in damp weather. Spots similar to those of Alternaria Blight are produced upon the leaves. In the early stage they are dark green and water-soaked, but soon the centre of the spot becomes white, the margins remaining dark green and water-soaked. In damp weather the disease spreads down the stem and causes the root to rot.

Diseased seedlings should be removed from the beds as soon as they are noticed. Give a thorough spraying with Bordeaux mixture early in the spring while the plants are coming up.

DAMPING OFF OF SEEDLINGS

"Damping Off" is another fungus disease which very frequently destroys seedlings, especially in wet seasons, and in ginseng beds which are not properly underdrained. The fungus rots the stem just at the surface of the soil and the tops drop off. The symptoms are so characteristic that the disease is familiar to nearly every ginseng grower.

Professor Whetzel recommends the



Curing Sheds on Onion Farm of John Campbell, Pelee Island, Ont.

preventing of excessive water in the seed beds either by the exclusion of part or all of the rain. The planting of the seedlings in rows or drills will permit the soil between the rows to be loosened after each shower by a hoe or other tool and so prevent excessive moisture accumulating round the tender stems of the seedlings. The following advice is given by the editor of "Special Crops" for the prevention of Damping Off of Seedlings: "Take off the shade at once, then stir the soil well around the seedlings and spray well with water to which is added two ounces of common spirits of ammonia to the gallon.

PREVENT FUNGUS SPREADING

"If the seedlings are going down in solid patches it is well to dig a trench around the spots where they are going down as the fungus travels in and on the soil and goes from one plant to the next. We allow no rain to fall on the seedling plants until after the 15th of July, and are not troubled with Damping Off."

Growing Pickling Onions Successfully

By J. C. Inman

DOWN near Leamington, Ontario, where they grow thousands of bushels of tomatoes and melons every year, there has grown up another industry—the growing of pickling onions. It is doubtful if the tomato business or anything else can compete in point of returns for time and money invested.

Several years ago dredges were put to work and after the expenditure of several thousands of dollars the huge Pelee marsh was turned into one of the most productive spots in Canada. The original idea was to drain the grain lands back of the marsh but in doing so it was necessary to drain the marsh itself, and thus the rich black muck land was uncovered. It was found that there was from four to seventeen feet of purest muck.

SELLS BY CONTRACT

It is here that onion growing has become a noted industry. One of the most successful onion growers on the marsh is Mr. John Campbell. He has a contract with the Heinz Pickle Company, who have a large factory at Leamington, calling for six and a half acres of pickling onions, no more and no less. They have figured pretty closely just what is required.

Picklers, as they are called, are planted in loose well fertilized ground, about the same time regular onions are planted and are kept weeded by hand during the few weeks that they are in the ground. Belgian labor is employed by Mr. Campbell the season through. So much hand work is necessary that only

Soft Rot is thought to be a bacterial disease. The leaves of plants attacked by Soft Rot lose the dark green color so characteristic of healthy plants and become thin and delicate and tinged with red and yellow as though maturing for the autumn, and finally the leaves wilt and the stems drop over. If the roots of plants showing the early symptoms of the disease are dug up some part will be found to be rotted. The rot may be at the crown or on the fibres and larger rootlets. As the disease advances the whole root becomes soft, ill-smelling, and rotten. This disease is usually most destructive during wet periods in July and August, and is especially a disease of ginseng beds which are not properly underdrained.

All plants showing signs of rot should be removed from the beds as soon as they are noticed. Care should be taken to see that the beds are properly tile drained. If the disease becomes destructive in a bed, remove the plants and sterilize the soil with steam or formalin.

people who are used to the hardest work can or will stand it. One of the main advantages of foreign help is their reliability as they do nearly all the work they undertake under the contract system, guaranteeing satisfaction as far as thoroughness is concerned.

A HANDSOME INCOME

Mr. Campbell's income last year was \$4,700. Few people would believe that so much money could be made from six and a half acres, but it must be remembered that the land is worth one thousand dollars an acre, and that only a small acreage of such land is obtainable in the whole of Canada. The expense in connection with this pickler crop was \$1,600 everything included, leaving a clear profit of \$3,100, for the use of six and a half acres for some sixty days—the time required to raise a crop of picklers. This however was not the only income from the land as potatoes were planted as soon as the onions were off.

Tomato Pruning

H. P. Blanchard, Ellershouse, N. S.

All pruning and thinning depends upon the axiom that

"Not the branch, but the root
Is what bears the fruit."

The method I follow is the "Potter System," with which I have had good success.

The tomato plant in growing throws out from the stem the leaf; and in the angle between the leaf stock and the stem, the "armpit," as someone called it; the branch a little later starts. It is



In "Bellevue Gardens" of Dr. E. A. Smith, Shediac, N.B.

by pinching or cutting out these budding branches or suckers that the pruning is done. One should not remove the leaf growth.

Allow the plant to grow until, in addition to the main stock, there are about three branch stocks. Diligently remove every branch sprout just as soon as it appears in the "armpit," but permit the four main stems to grow in length at their tips. However, pinch off the ends of the stems just beyond the third cluster of blossoms. This gives to each plant four main stems, three clusters of fruit to each stem; twelve in all.

GIVE PLANTS PLENTY ROOM

Every plant is at least four feet from its neighbor; five feet will not hurt in choice soil. This space permits the stems to be supported on small stakes, to keep the ripe fruit from the ground and also to spread the branches to the sun heat.

In tomato culture there are some things one may omit and yet succeed. For instance, where the soil is not too dirty, on gravelly soil, the stakes may perhaps be omitted and the vines allowed to lie on the ground. A little fruit thus will be ruined, not as much in value, perhaps as the labor of staking.

But to crowd the plants; to neglect the pruning; to allow grass and weeds to multiply; these things are fatal. It is unquestionable that two plants on the space proper for one will give less and poorer fruit than a single plant on that space; and the multiplication of blossoms and suckers robs the roots of just so much food that was required for the maximum quantity of choice fruit.

The Canadian Horticulturist

COMBINED WITH

THE CANADIAN HORTICULTURIST AND BEEKEEPER

With which has been incorporated
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H. BRONSON COWAN Managing Director

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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 year, including postage.

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

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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 15,000 to 15,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruits, flowers or vegetables.

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|-----------------------------|--------|-----------------|---------|
| January, 1913 | 11,570 | August, 1913 | 12,675 |
| February, 1913 | 11,551 | September, 1913 | 13,729 |
| March, 1913 | 11,209 | October, 1913 | 13,778 |
| April, 1913 | 11,970 | November, 1913 | 12,967 |
| May, 1913 | 12,368 | December, 1913 | 13,233 |
| June, 1913 | 12,618 | | |
| July, 1913 | 12,626 | Total | 150,293 |
| Average each issue in 1907, | | 6,627 | |
| " " " " 1913, | | 12,524 | |

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 shall 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.



EDITORIAL

UNITED ACTION NEEDED

Cooperation and united effort have scored another point. Elsewhere in this issue appears an announcement of the obtaining of better shipping facilities for the local fruit growers at Niagara-on-the-Lake. This is welcome news both to the growers directly concerned and to fruit growers as a body. It speaks well for the work done by Mr. G. E. McIntosh, the transportation agent of the O.F.G.A., and should be a source of encouragement to all.

The Canadian Horticulturist has always promoted the fight for better transportation facilities. The lean years, when an almost hopeless fight was maintained by the efforts of individual growers, will soon, we trust, be only a memory. The full years of concerted action are coming with the growth of cooperation.

Much has been done; much still remains to be done. A matter deserving of immediate action is the equalization of express rates. Where two express companies are in the field, rates are maintained at a nominal level by competition. But where only one company handles the traffic of a district the excessive charges often made are unreasonable.

Every grower can be of assistance by collecting in his own locality concrete evidence of over-charging. This should be forwarded to Mr. McIntosh in such a form that he can make the best use of it. Growers by furnishing evidence of failure on the part of railway companies to place cars, delays in transport, delays at terminals and junction points and insufficient icing, can aid materially and the fruit growing industry will benefit accordingly.

A PLEA FOR PARKS

Someone has said "God made the country and man made the town." And as we look out upon the green fields and the sparkling streams or stroll through sylvan glades, how insignificant does man's work seem. Nature has plumed herself in all her glory to coax us from our man-made burrows in city and town that we might enjoy to the full the peace and restfulness that she offers.

To those who are denied the pleasure of spending the summer months in the open country, how soothing is a quiet hour or two spent in some shady park. And how pleasing to the eye is a tastefully planted corner nook that has escaped the operations of the builder. Yet in our mad rush for more factories, smoking chimneys, and bigger business, the providing of breathing places for the increased population has received scanty attention. On the occasion of the recent visit of the St. Thomas Horticultural Society to Rochester, N. Y., Rev. Father West, who was one of the party, stated that "cities are measured to-day more than ever before by the happiness of the people, and that city is greatest which gives to its citizens the most in protection, education, recreation, amusement, and beauty."

By what means can such ideal city conditions be attained? "City cleaning" is one method. In several cities of the United States, "Clean-Up Leagues" have been organized among the boys, and wonders

have been accomplished. Rubbish of all kinds was collected, ash heaps and small garbage dumps carted away, and a general clean-up effected. In other cases public-minded citizens have had vacant lots plowed and attractively planted.

But above all, the crying need is for parks of considerable area where a sweltering population can find relief and quiet. While our cities are growing is the time to take action and have suitable blocks of land set aside. In after years it may be too late. Great responsibilities and opportunities rest with horticultural societies, town planning associations, and similar organizations which the populace as a whole expect to take the lead.

FIGHTING ORCHARD PESTS

The battle is still on. This year a more determined effort than ever is being made by fruit inspectors and others to eradicate and check orchard pests. Mr. Caesar, of the O.A.C., Guelph, who has charge of a large portion of this work, is most optimistic. Yellows and little peach are far less prevalent. Where several seasons ago sixty thousand trees were removed because of this disease, the last season only six thousand were taken out. Indications are that San Jose Scale can be controlled if concerted action is taken.

Here lies the part that must be played by the fruit grower. The inspectors can locate the disease; the grower must do the rest. There has been a great awakening among fruit men in this respect. More cleaning up of scale has been done during the past season than in any previous five. Thorough spraying has proved a certain control measure.

A determined effort is being made, and rightly so, to protect those who are making an honest fight against orchard pests, from the carelessness of their less progressive neighbors. All orchards that are found to have scale and are not properly sprayed are being destroyed. Nor is there any injustice in such a course. Once an orchard has become seriously infested with scale its days of usefulness are numbered. The owner loses little by its destruction and his neighbors are protected.

The good work that has been done this spring should be continued. Spasmodic efforts count for little. Fruit growers should cooperate with the inspectors and with one another to do all in their power to stamp out scale, yellows, and other fruit tree diseases.

MORE SCHOOL GARDENS

A matter of great importance is the place of the school garden in the education of the city child. The broad outlook and wide sympathy that characterize the really great man or woman are almost invariably traceable to a more or less constant intercourse with nature. The child that is denied such a privilege is heavily handicapped. A great responsibility rests upon the parents and educators of city children. Some there are who have shown how to take advantage of the assistance that nature offers.

A splendid opportunity awaits horticultural societies. Good work has been done by those societies which distributed seeds and awarded prizes to school children. The aim of all interested in this work should be to have a school garden, or system of home gardens, among the pupils in connection with every school in this province.

PUBLISHER'S DESK

This is the season of the year when nature appeals to all. To the city dweller, the cool, shady parks are inviting retreats. Our front cover illustration is a park scene, in which the landscape artist has taken nature into full partnership. The picture is all the more pleasing because of its quiet naturalness. With the exception of a few shrubs which are seen bordering the river, the effect is one of nature left undisturbed. In the reading columns the reader will find interesting matter relative to parks and city beautification. Too much emphasis cannot be laid upon the importance of this phase of city activity.

Last year our Special Greenhouse Number was so well received that a similar number will be issued next month. It will contain timely suggestions as to what may be planted in the greenhouse and the preparations that will be necessary. Perhaps you have not a greenhouse. Read the August issue carefully; it will tell you the advantages of having one.

The September issue will be the regular Fall Packing and Exhibition Number. We are making every effort to surpass all former issues.

We have had several favorable comments on the page of "Seasonable Paragraphs for the Gardener" that is now appearing in each issue. We are pleased that this feature has been so favorably received. This page may be looked for during the summer months.

We feel that we have in this issue a number of strong articles dealing with the various phases of horticulture. We have made an effort to have interesting matter in each department. This is in line with the fact that The Canadian Horticulturist is the only magazine in Canada which covers the whole field of horticulture.

A Taxation Blunder

F. E. Ellis, B.S.A.

The Guelph Horticultural Society should be congratulated upon the stand which it has taken in regard to the taxing of improvements. I read with interest the article which appeared in the May number of The Canadian Horticulturist, and I hope that it is the forerunner of a campaign for a better system of taxation. The utter folly of taxing improvements which add to the appearance of the city was impressed upon me by a concrete instance which came to my notice last fall.

Several years ago, when attending the Ontario Agricultural College, I roomed with a family that had just rented a new house. The surroundings were of the kind that usually characterize a recently erected dwelling. Out in front were heaps of clay as bare as the street; at the rear were piles of stones and rubbish. With commendable enterprise the tenant levelled the clay in preparation for a lawn and had the rubbish carted away.

Last fall I happened to be visiting in Guelph. My former boarding-house was now hardly recognizable. Facing the street was a nice lawn, with some trees and shrubs planted in the proper

places. At the back was a small but well cared for garden. I made some appropriate remarks about the improved appearance. "Doesn't pay in this town," was the reply. "When you were here last our assessment was \$1,400. The next year the lawn had made a good start and we had a good garden. The assessor called and pushed the assessment up \$50. To top it off, the landlord complained that he did not see that the improvements would add enough to the renting value of the house to make it worth while paying the extra taxes on that \$50."

Is it any wonder that home owners and home renters hesitate to add to the appearance of their properties in the face of a discouraging increase of taxes?

Parcels Post and the Fruit Grower

Geo. Powell, New York State

Parcel post makes it possible in the United States, where the regulations are more liberal than they are in Canada, for many fruit growers who have friends and acquaintances in cities to send small packages of apples, pears, peaches, and other fruits two or three times a week, when consumers may receive the same in the very best possible condition.

Under parcel post, fruit may be left on trees until nearly ripe, then shipped when their finest flavors have developed. When consumers know that they may receive fruit of this kind in small quantities they will extend the information to friends, and thus a very largely increased consumption and demand will follow by which large numbers of producers whose land and orchards are in the nearest zone to cities will be benefited by an individual line of trade which will in the future be possible to obtain. The rates for such shipments are favorable for their encouragement. The rates of postage, up to 50 lbs. in weight, are, for the first zone of 50 miles, five cents for the first pound, and one cent per pound thereafter, which would make the cost of a 12-lb. package of fruit, about one-fourth of a bushel, sixteen cents. This cost will be the same for the second zone of 150 miles. For the third zone of 300 miles, the cost for such package will be twenty-eight cents, and for the 600-mile zone, fifty-one cents.

This makes possible the delivery of fruit to consumers in the best possible condition, at a reasonable cost, with telephone calls and car fares cut out, while the producer may receive a higher value that would be difficult to obtain in any other way. While the parcel post regulations are being changed and perfected, the present limit of weight is fifty pounds. The size, length and girth of the package combined must come within seventy-two inches. On merchandise valued at fifty dollars insurance may be had for five cents and the regular postage, and on a value of one hundred dollars for ten cents and the regular postage. Still further changes will be made in the law that will be of much benefit to producers, especially those who have small places of a few acres.

Already some growers on the Hudson are selling apples, through parcel post, direct to city families, putting up two dozen Baldwins, Greenings or Spies for one dollar and delivering at a cost of sixteen cents postage. As a result of the lessened cost of delivery of many food products to consumers by parcel post, express companies that long have reaped enormous and unreasonable profits, will reorganize their

systems and thus add to a cheaper and better service than has heretofore been possible to obtain.

SOCIETY NOTES

We invite the officers of Horticultural Societies to send in short, pithy reports of work that would interest members of other Horticultural Societies.

Guelph

Members of the Guelph Horticultural Society this year, in addition to receiving the Canadian Horticulturist free, were offered their choice of nineteen splendid options. The officers of the society have sent out a notice calling for cooperative effort to make Guelph known as one of the prettiest and most beautiful cities in Canada. Lawns entered in the lawn competition will be judged during the months of June, July and August. In the lawn and flower garden competitions special prizes are being offered in each ward. Special competitions include one for vegetable gardens confined to working people only, and one for window and verandah boxes confined to members only.

St. Catharines

Over one thousand sets of gladiolus bulbs were distributed to the school children of the city. These sets were given to the pupils at the nominal price of five cents. The ordinary retail price would be at least thirty-five cents. Each set includes four varieties—America, Augusta, Columbia, and Mrs. F. King.

The early part of June was very favorable for roses. The hot weather brought the wood and foliage along rapidly. It is expected the best rose show ever will be held on June 23 or 25.

Hamilton

The garden meeting held at W. D. Flatt's, Lakehurst Villa, Burlington, on June 17th was a pleasant outing. Photographs have been taken of a number of the gardens and slides for the use of the society will be prepared from these. A flower show was held on June 24th and 25th, particulars of which will appear later.

St. Thomas

Much pleasure and profit resulted from the society's trip to Rochester, N.Y. The beautiful and numerous parks were a revelation. Those who viewed them were fired with a determination to make St. Thomas a city beautiful. An effort will be made next year to organize excursions at points in Ontario which will converge at Buffalo, and proceed by special train to Rochester.

The prize list totals over \$400. It comprises fifteen classes, some of which are divided into sub-classes, making eighteen small lawns, floral beautification of the home, perennial garden, rose garden, school lawn, porch and verandah beautification, flower and vegetable gardens, beautification of business premises and factories, best back yard, aster bed, tulip bed, and class for school children.

A charge was recently laid by President Bennett against a contractor for damaging a tree while moving a house. The society upheld the president in this action.

The Cooperative Marketing of Fruit*

A. E. Adams, of the United Fruit Companies, Ltd., Berwick, N. S.

THE cooperators own and operate their own factories. Considering the present state of cooperative production as carried on by the Cooperative Wholesale Society, certain facts must be noticed. Cooperators have undertaken production solely to supply their own needs. The goods made by the Cooperative Wholesale Society are made not to be sold for profit, but to be consumed by the proprietors of the factories where they are produced. Though one hears of Cooperative Wholesale Society goods being bought and sold, and of profits made on them, it is of the utmost importance in studying certain aspects of the Cooperative Wholesale Society production to remember that neither in the Cooperative Wholesale Society nor in the distributing store are the goods "sold" to the members at a "profit" as we understand these terms in the world of competitive trade. When the Cooperative Wholesale Society sends boots made at Leicester to a society, and the latter hands them to a member, there is no "sale" or "barter" in the economic sense, but merely a process of distribution. The man who gets the boots, being the part owner of the Cooperative Wholesale Society factory, the Cooperative Wholesale Society warehouse, and his local store, was really the principal in the transactions where the leather was bought and the labor hired for putting it together. He deposited a sum represented by his share of capital with certain agents or employees of his who undertook to supply him with a pair of boots when he wanted them. When he takes the pair of boots from his local store he reduces the amount of his deposit with those agents by the value of his boots, and his payment when he obtains them is really making up that deposit to what it was before with a small sum added, which at the quarter end he may either withdraw or allow to remain in their hands. That he should choose to call his payment at the time of taking the boots the "price" of them, his taking them the "buying" of them, and the extra sum added to his deposit account with his employees the "profit" on them should not be allowed to mislead us as to the real nature of the transaction involved. In ordinary commerce the manufacturer, the shopkeeper and the customer are independent, free to buy or not to buy, to sell or not to sell, and free to fix prices. A little consideration will show how different cooperative trade is in these particulars.

The Cooperative Wholesale Society of Great Britain own and operate some of the largest and best equipped factories in Europe. They have five splendid flour and provender mills, the one at Trafford Wharf being the largest flour mill in the kingdom. There are four large soap factories turning out tremendous quantities of that very useful article. The soap works on the Manchester Ship Canal has a weekly output of three hundred tons of soap and fifty tons of candles. They have in Manchester a large tobacco factory, with a yearly turnover of \$2,600,000. They own several large printing and boxmaking works at various parts of the country. At their Longsight printing works they employ over one thousand hands.

They own and operate their own factor-

ies for the manufacture of fabrics of all kinds, clothing, hardware, ironmongery, brushes, mats, furniture, bedsteads, bedding, boots, drugs, preserves, and practically everything the mind can imagine. The boot factories are said to be the largest in the world, their output being two million pairs per annum.

Their tea warehouse in London has the same distinction, their output being two hundred tons a week. They own three large tea estates in Ceylon. They claim to be absolutely self-supporting. They even go in for farming, and at Roden have a farm of eight hundred acres mostly in fruit. Here they also have a large convalescent home for the families of cooperators. At Maden they own another one hundred and fifty acre fruit farm.

There are employed by the central in their factories alone, no less than one hundred and twenty-three persons, the pay-roll amounting to the respectable sum of forty-five million dollars a year.

CONTROL A BANK

To my mind one of the most important departments of the Cooperative Wholesale Society of Great Britain is their bank. They operate their own banks, the turnover of that department last year being no less than six hundred and eighty-two million five hundred and seventy-five thousand. We in Nova Scotia will never feel that our work is complete till we are powerful enough to obtain a Dominion Charter to likewise do our own banking.

The Cooperative Wholesale Society also owns its own fleet of steamships, so that they are independent of outside assistance even in the matter of transportation. I hope after this year's experience the time is not far distant when the United Fruit Companies of Nova Scotia will be in a position to avail themselves of the powers they possess under their charter and operate their own steamships for the transportation of the fruit of the Valley.

You will see by the facts and figures I have given that the cooperative movement

started by that handful of humble Rochdale weavers has grown to be a tremendous body and one of the most powerful organizations for good this world possesses. Thus have the cooperators shown what a foolish blunder the retail merchants of England made in trying to kill cooperation. Let the merchants of Canada, both wholesale and retail, and let the operators and brokers of Canada be careful that they make no similar blunder. In England they simply forced the cooperators into all kinds of manufacturing and wholesale enterprises much sooner than they would have undertaken them even as the big fertilizer combines in Canada and the United States forced the United Fruit Companies to go direct to the fountain head for its supplies.

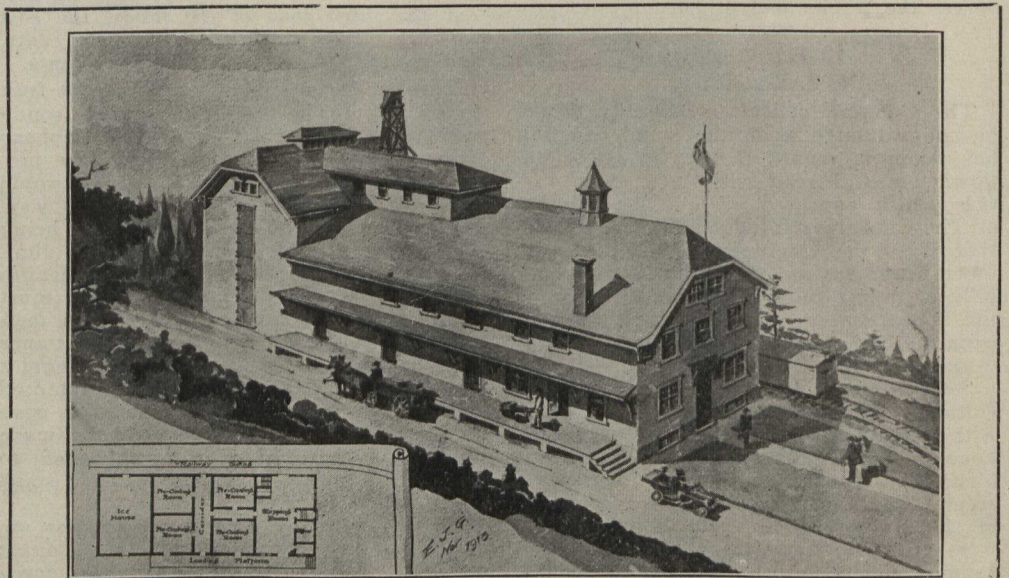
What might be done if men were wise;
What glorious deeds, my suffering
brothers

Would they unite
In love and right,
And cease their scorn for one another.

Let those who are offering such a strenuous opposition to cooperation in the Annapolis Valley of Nova Scotia bear in mind that nobody who serves any legitimate economic need has cause to fear cooperation, for by cooperation we are united to assist not combined to injure as are the great trusts and monopolies and combines.

From the European movement all other cooperative movements have sprung. The idea has been applied to many problems, and has been equally successful with all. It has been applied to municipal problems, and has resulted in municipal ownership of water and supply of gas, electricity, tramways, etc., and, what will possibly interest you mostly, it has been applied to agricultural problems also with equal success.

It is a curious fact, however, that in matters agricultural, it requires a series of misfortunes before the farmer will take hold of anything new, especially when the, to him, new theory will possibly do away with much of his individual independence. Hence the examples that can be given of success of cooperation in agricultural matters are all the more striking. The well-known success of cooperation in Denmark is a splendid illustration.



Government Pre-cooling and Cold Storage Plant at Grimsby, Ont.

The refrigerator capacity will be 50,000 cubic feet. The space on the ground floor is divided into four rooms, each large enough to handle two carloads of fruit at the same time. These rooms are intended for pre-cooling, part of the basement being available for storage. The equipment is the Gravity Brine System, in which crushed ice and salt are used.

*Extract from an address delivered before the last annual convention of the Nova Scotia Fruit Growers' Association.

St. Lawrence Growers will Exhibit

Editor, The Canadian Horticulturist,—In the May issue of your paper there appeared an article stating that the St. Lawrence Valley Fruit Growers' Association have decided to discontinue exhibiting at the Horticultural Exhibition unless a rule be made prohibiting Government men who act, assist, or advise as packers, from officiating as judges.

I wish to correct the misunderstanding that the article in question may cause. While a few of the members warmly discussed the injustice of the above practice, and were supported by the meeting, yet there was no mention made of discontinuing exhibiting at the fair for that reason. The majority of the members have confidence enough in the judges appointed, to feel that the fruit would be judged fairly and that the final placing of awards would be done conscientiously, and they feel that this was the case in this instance. The point that they did raise, as was mentioned in the article, was the chance of a judge who knew all the fruit in the boxes of one exhibit and not in that of another being somewhat biased in his final sizing up of the two exhibits and placing the awards.

Again, we did not feel that the Baldwin apple was rated as a better apple than the McIntosh, simply because it was placed first, because we know that no judge of fruit would consider it such, other things being equal. We take it that it was chiefly the fault of our pack which had gone somewhat slack with the long shipment that caused us to lose some points and intend to make every effort to overcome that difficulty when exhibiting again. The St. Lawrence Valley Fruit Growers' Association ap-

preciates the encouragement and assistance that was given them by the executive of the Horticultural Exhibition and intend to give the exhibition every support in future years.—E. P. Bradt, Secy., St. Lawrence Valley F.G.A.

Cooperative Fruit Experiments

An interesting line of experimental work has been commenced this spring by Prof. Crow's department of the O.A.C. This work is being undertaken at the request of the Board of Control of the Ontario Experiment Stations. It is cooperative in its nature in that the experiments are to be conducted in the orchards of men who have the facilities to offer and are interested in the work. The actual experiments are under the charge of G. J. Culham, B.S.A., who last year did orchard survey work in Northern Ontario. The expenses will be covered by a portion of the Dominion agricultural grant.

A wide range of experiments will be conducted and as much work covered as it will be possible to keep in touch with. The intention is to confine the experiments mostly to apples and the hardier fruits. A start has been made in Oshawa. Mr. Culham this spring top grafted some Ben Davis with McIntosh, Snow and Spy. All three varieties are grafted on every tree. It is hoped in this way to ascertain which of these varieties will do best for top working the Ben Davis. Other work contemplated is the study of the effect of various kinds and amounts of fertilizers, summer pruning for fruit buds, winter injury and methods of prevention, budding and grafting, and the question of unproductiveness in fruit trees. A special study

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- 13. I. HYBRIDA, RHEIN NIXE, (S) pure white (F) violet blue with white edge, each 50c.
- 15. I. HYBRIDA, MRS. G. DARWIN, white reticulated gold and violet, each 25c; 3, 60c; 10, \$2.00.
- 18. I. HYBRIDS, WYOMISSING, (1909) (S) creamery white, (F) deep rose. Deliciously fragrant, each \$1.00.
- 25. I. PALLIDA, JUNIATA (1909) (S and F) clean blue, very tall, each 75c.
- 26. I. PALLIDA, MANDRALISCAE (S and F) rich lavender purple, 40 in., each 25c; 3, 60c; 10, \$2.00.
- 29. I. PLICATA, MME. CHEREAU (S and F) white frilled with blue, 32 in., each 15c; 3, 40c; 10, \$1.25.
- 33. I. SQUALENS, Jacquiesiana (S) coppery crimson (F) maroon, 30 in., each 25c; 3, 60c; 10, \$2.00.

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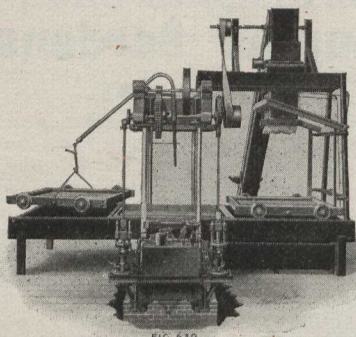
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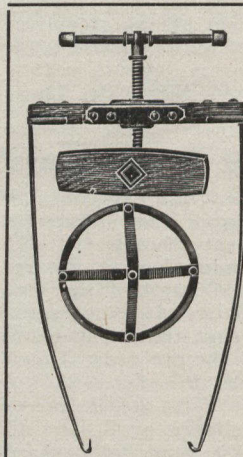
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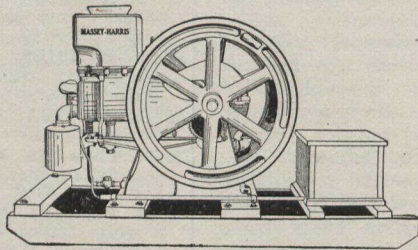


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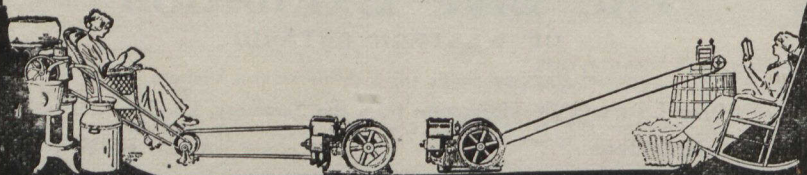
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of this last problem will be made to ascertain if unproductiveness is a matter of bud formation or due to some other reason.

These cooperative experiments are not intended to duplicate the demonstration work conducted by the Department. Any fruit growers who have the right material to work upon and are interested in this work should get in touch with Prof. J. W. Crow, O.A.C., Guelph.

Welcome Improvements

Fruit shippers at Niagara-on-the-Lake and St. Catharines will be pleased to learn that the Transportation Committee of the Ontario Fruit Growers' Association have the assurance that facilities for handling express shipments will be greatly improved at these points.

At Niagara-on-the-Lake the shippers were compelled to deliver their fruit on the dock, exposed to the weather until loaded on the boat, and in case of rain they were liable to heavy loss, as was experienced last season. At that time an effort was made to have the Richelieu and Ontario Company provide a suitable shelter, but without result. Early this spring the complaint of the shippers was again presented to the officials of the company by the association's transportation officer, G. E. McIntosh, of Forest. Mr. Paton, the assistant operating superintendent, said his company was anxious to meet the wishes of the shippers, and after a careful consideration of the conditions, advises the Transportation Committee, under date of May 30, that a shelter similar to the one at Queenston will be erected at Niagara-on-the-Lake.

The steamer Macassa will also make regular trips twice daily between June 17 and September 5, from Toronto to Grimsby Beach and will accept fruit shipments for each sailing.

At St. Catharines express accommodation has also been unsatisfactory for several seasons, and has remained so because of contemplated improvements by the G.T.R. being delayed until the decision of the city is given in regard to the proposed high level bridge over the ravine, towards which the railway company has offered to contribute \$20,000. The indications are, however, that the bylaw to be submitted in the near future will carry, in which event work will start at once on a new passenger depot, with platforms and shelters to fully take care of the express shipments, also a freight shed six hundred feet long, and ten additional tracks to be laid north of the present yard.

Niagara Peninsula

Indications are that there will be a record crop of cherries. Growers are hoping to receive from sixty to eighty cents for sour cherries en bloc. Sweet cherries are not expected to be any higher than in previous years.

The peach crop is practically a failure. Peach leaf curl is appearing in nearly every locality, and shows in abundance in orchards that were not carefully sprayed. There is more curl than there has been in two seasons, but if warm, dry weather prevails for the next few weeks the damage will not be so great. Growers have gone in more extensively for tomatoes to offset the peach shortage.

The strawberry crop will be below average and prices will run high. In British Columbia a fair crop of berries is expected.

SELECT ITALIAN QUEENS

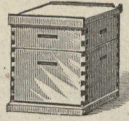
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by return mail or your money back. Guaranteed purely mated. J. E. Hand strain of three-banded Italians. Write for price list and free booklet, "How to Transfer, Get Honey and Increase."

J. M. GINZERIC, ARTHUR, ILL., U.S.A.



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Pure Carniolan Alpine Bees
Write in English for Booklet and Price List. Awarded 60 Honors.

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Upper-Carniola (Krain), Austria

PRICE LIST

Three Banded Red Clover Italian Queens

Bred from Tested Stock

Untested Queens, \$1 each, \$5 for six

Selected untested, \$1.25 each, \$7 for six

Tested Selected Guaranteed Queens, \$2 each

Cash With Order

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QUEENS AND BEES

We can supply choice leather colored Italian Queens promptly at the following prices:

| | | | |
|---------------|--------|--------|---------|
| Untested | 1 | 6 | 12 |
| | \$1.00 | \$5.50 | \$10.50 |
| Tested | 1.50 | 8.50 | 16.00 |
| Select tested | 2.00 | 11.25 | 22.50 |

For prices on larger quantities please write us.

We offer bees in pound packages from the same stock as above as follows after July 1st:

| | | |
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| 1 lb. | 2 lb. | 3 lb. |
| \$1.50 | \$2.50 | \$3.50 |

These prices do not include a queen. Add price of queen you may select to price of package when ordering. Safe delivery guaranteed. Full directions for handling sent with each shipment.

A full stock of bee-keepers' supplies always on hand for prompt shipment. Catalogue on request.

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By return mail after June 5th to 10th, or money refunded; bred from best red-clover strains in United States, in full colonies; from my Superior Breeders, northern bred, for business, long tongued, leather color or three banded, gentle, winter well, hustlers. Not inclined to swarm, roll honey in.

1 Untested \$1.00, 6 \$5.00, 12 \$9.00.

1 Sel. Untested \$1.25, 6 \$6.00, 12 \$11.00.

A specialist of 17 years' experience.

Safe arrival and satisfaction guaranteed.

I. F. MILLER, BROOKVILLE, PA., U.S.A.

SUPERIOR ITALIAN QUEENS

July and August is the best time to requeen. Have your colonies go into winter with vigorous, young queens.

Send your order now.

\$1.00 each, Six for \$5.00, \$9.00 doz.

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438 Gladstone Ave. - Toronto, Ont.

QUEENS

Tested, \$1.00 each; 3 to 6, 90c. each.

Untested, 75c. each; 3 to 6, 70c. each.

Bees per lb., \$1.50, no Queens.

Nuclei per frame, no Queens, \$1.50.

I. N. BANKSTON

Box 141, Buffalo, Texas, U.S.A.

Famous Queens Direct from Italy

Bees more beautiful, more gentle, more industrious, the best honey gatherers. PRIZES—VI. Swiss Agricultural Exposition, Berne, 1895.

Swiss National Exposition, Geneva, 1896

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Beekeeping Exhibition, Frankfurt, O. M. (Germany), 1907.

Universal Exposition, St. Louis, Mo., U.S.A., 1904.

The highest award.

Extra Breeding Queens, \$3.00; Selected, \$2.00; Fertilized, \$1.50. Lower prices per dozen or more Queens. Safe arrival guaranteed.

Dominion of Canada, Department of Agriculture, Central Experimental Farm, Ottawa, 5th Sept., 1914.

I am pleased to inform you that the three queens were received in good condition, and have been safely introduced.

I have the honor to be, Sir, Your obedient servant.

(Signed) C. GORDON HEWITT, Dominion Entomologist.

ANTHONY BIAGGI

PEDEVILLA, NEAR BELLINZONA ITALIAN SWITZERLAND

This country, politically, Switzerland Republic, lies geographically in Italy and possesses the best kind of Bees known.

Mention in writing—The Canadian Horticulturist and Beekeeper

3-BAND LONG-TONGUED RED-CLOVER ITALIAN QUEENS



For Sale.—My long-tongued Golden Queens are proving themselves to be the bee to clean Foul Brood. This is why I have such a large trade in Canada. Mr. E. L. Cox, of Jesup, Iowa, introduced 50 of my 3-band queens in Foul-Broody colonies in 1912; and he said the disease was cleaned up where each of those queens was put. They gathered such a

large crop of honey in 1912 that he bought 50 more in 1913.

One Untested, 75c; 6, \$4.00; 12, \$7.50; 25, \$13.50; 50, \$25.00.

Double the above for tested queens. Bees by the pound: One lb., \$2.00; 2 lbs., \$4.00. One-frame nucleus, \$2.00; 2 frame, \$5.00; 3-frame, \$4.00. To all the above packages add the price of queen. I will begin to send out queens in April.

Positively no checks will be accepted. Send money by P. O. Money Orders. All queens arriving dead will be replaced if cage is returned by return mail.

J. B. ALEXANDER, CATO, ARK.

SOCIETY NOTES

Hamilton

The Society held a most enjoyable outing, June 16th, at the home of Mr. W. D. Flatt, Lakehurst Villa, Port Nelson. Mr. and Mrs. Flatt had a cordial welcome for the two hundred ladies and gentlemen who were present.

The party spent some time admiring the grounds and the fine view of the lake, which nearly touches the back of the lawn. There are several terraces from the back of the house, the last one being a short distance from the lake beach. Along the side and across the front is an artistic cobble stone wall, with large iron gates attached to tall stone pillars. All around this wall is a continuous flower bed, three yards wide, which was a mass of bloom, from the lovely old flowers, many of which are seldom seen now—giant poppies, fleur de lis, sweet william, larkspur, cosmos, pinks in great variety and many other kinds of old flowers. In the corner where the front and side walls join, is a fine large rockery, filled with ferns and flowers that bloom in the shade, as it is under some large trees. At the back of the house is a large star-shaped bed, each point of the star being a solid mass of a different color of pansies, the effect of which is charming. A pedestal stands in the centre, upon which a sun dial will be placed later. Mr. and Mrs. Flatt had afternoon tea served on the lawn, chairs being placed under the trees for the guests. The outing was voted by all as a most enjoyable one.

Ten Million Egg Masses Destroyed

From last November to the first of June a campaign was waged by the schools of Connecticut against the tent caterpillar. The State Agricultural College organized a contest and suitable prizes were offered to schools and pupils. As nearly as can be estimated over 10,000,000 egg-masses have been collected through the efforts of the pupils of the state.

While there seems to be more tent-caterpillars than ever throughout the state and the collection of over ten million masses does not seem to have materially lessened the tent caterpillars, such is not the case. In the localities where the children have collected large numbers of egg-masses there is a marked difference in the number of defoliated trees and a large amount of damage has been averted. Also by the efforts of the children many roadside trees have been kept free from the ugly nests and defoliated branches. While collecting egg-masses of the tent-caterpillar the egg-masses of other insects have been found and sent to the Connecticut Agricultural College for identification. One of the most effective methods of controlling many insects has been brought to the attention of the children of the state.

School Gardens Increasing

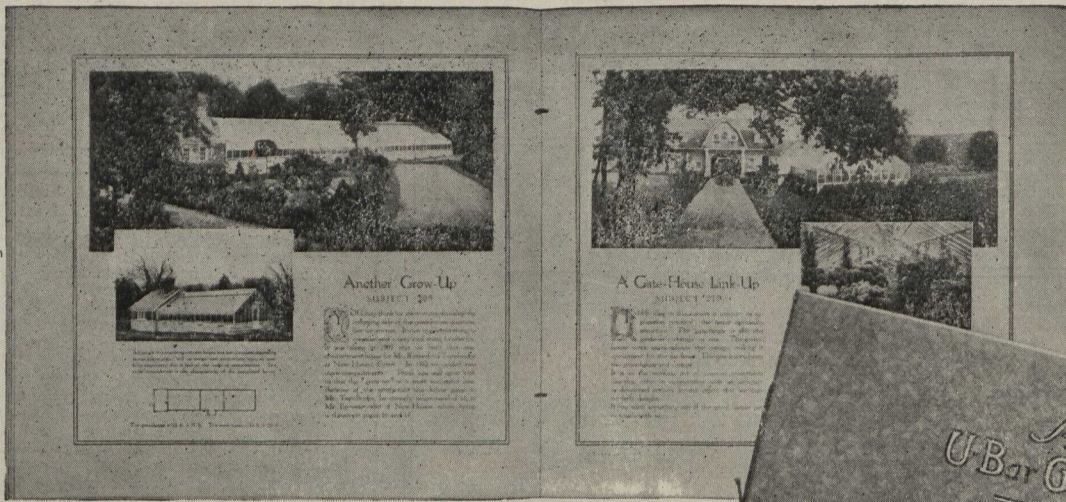
A gratifying sign of the times is the increased interest that is being shown in connection with school gardening. A representative of Prof. McCready's department at Guelph recently called at the office of The Canadian Horticulturist and gave an optimistic report of conditions as he found them while doing inspection

work. Last year the number of rural schools in Ontario conducting a regular system of school gardening was one hundred and seventy-seven. This season the number has increased to two hundred and ninety-three. About five hundred more get seeds from the department, but have not a specially prepared garden at the school for the use of all the pupils. In addition each district representative—there is one in nearly every county—has on an average twenty schools which hold school fairs and have the children conduct plot experiments at home.

Eight inspectors travel throughout the province in the summer, inspecting the gardens and also giving instructions and holding meetings wherever necessary. The inspectors confine themselves mostly to rural schools, but occasionally visit the city schools. These men are also available for lecture work, and on several occasions addresses on school gardening have been delivered before horticultural societies. A number of societies have set excellent examples by cooperating with the schools and aiding by such means as donating prizes and distributing seeds.

Item of Interest

Mr. Marshall, a business orchardist of Fitchburg, Mass., who last year picked 4,000 boxes of choice apples, has had for years a standing offer, posted on the walls of his packing house, of one dollar to any man, visitor or laborer, who found a wormy apple on any tree or under a tree. The dollar is there yet, and the wormy apple has not been found. This speaks volumes for the thoroughness of Mr. Marshall's spraying.



Send for this Unusual Greenhouse Catalog

JUST from the glimpse you get of these two pages, you can see how charming the general treatment must be, and how complete is the showing of each subject considered.

One thing that we think is decidedly in its favor, is that by far the greater number of subjects shown, are of modest size—say, from 33 feet long up to 100 feet. There are just enough of the larger subjects to give you an idea of the scope of our work.

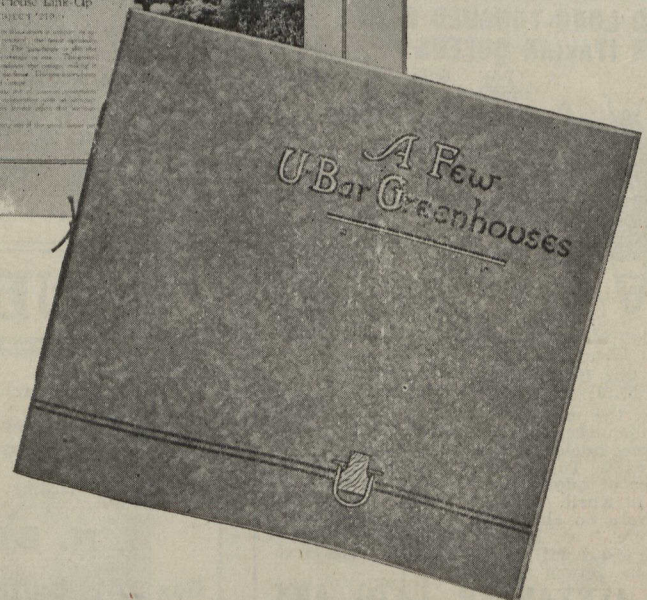
The text is free from any technical description, and reads along just like you and I would chat about it, if we were comfortably seated together talking things over.

If you are interested in having a greenhouse, or adding to the one you already have, you are welcome to this catalog.

U-BAR GREENHOUSES

PIERSON U-BAR CO

ONE MADISON AVE. NEW YORK
CANADIAN OFFICE, 10 PHILLIPS PLACE, MONTREAL



Change in Pooling System

A number of important changes have been made by the Central Selling Agency of British Columbia in regard to the rules and regulations covering the grading, packing, and standardizing of fruit. The most important change is perhaps in the method of pooling which has been one of the most difficult problems with which the management have had to deal, and a careful consideration of the new method would indicate that much of the unwieldiness of the former method has been disposed of.

Up to now it has been the practice to open a separate pool for each variety of fruit, and last season for apples alone there were more than 140 pools. This year there will probably be less than fifty pools for apples, thus greatly reducing the expenses of operating and bookkeeping.

This will be brought about by the adoption of a list of standard varieties, which will be known as the "Main Crop List." The other hundred or more varieties will be handled as an orchard run pack, graded as "No. 2 Special." This same plan is to be followed in the handling of other fruits as well as apples.

The "Main Crop List" of apples, which is divided into three general classes—summer, early fall, and fall and winter—will be graded into numbers one and two, and include the following varieties:

Summer: Red, White and Striped Astrachan, Yellow Transparent, Early Harvest, Early Colton, Sweet Bough, Tetofsky, and Liveland Raspberry.

Early Fall: Duchess, Wealthy, Gravenstein, Jeffries, and Maiden Blush.

Fall and Winter: Arkansas Black, Baldwin, Canada Baldwin, Canada Red, Cox's Orange, Delicious, Fameuse, Gano, Grimes Golden, Hubbardson's Nonsuch, Jonathan, Kaihn of Spitz, King David, Mackintosh Red, New York Wine, Northern Spy, Ontario, Rawls Jennette, Ribston Pippin, Rome Beauty, Snow, Seek-No-Further, Spitzenburg, Stamen Winesap, Sutton Beauty, Wagener, Winesap, Winter Banana, W. W. Permain, and Yellow Newtown.

Plums, which will be graded into numbers one and two and standardized, will be: Black Diamond, Bradshaw, Burbank, Columbia, Coe's Golden Drop, Damson, Greengage, Imperial Gage, Lombard, Peach, Pond's Seedling, Sugar, Tragedy, and Yellow Egg. Other plums will be treated as orchard run packs, not pooled according to variety, but will be graded numbers one and two.

Several of the most popular varieties of peaches will be pooled in crops according to season. Hale's Early, Brigg's Ren May, and the Alexanders will be pooled together, as will the Dewey and Triumph. A third pool will include Fitzgerald, Foster, and Early Crawfords. Late Crawfords, Elbertas, Yellow St. Johns, and yellow free stones will each have separate pools, while all of the peaches will be graded number one and number two.

Another important ruling relates to the weight of the packages of the different fruits all of which have varied, some not a great deal, others considerably. As an instance the minimum gross weight of a box of apples must be forty-nine pounds. If a package does not come up to this weight it will be regraded number two.

Bissell Steel Stone Boat

Used extensively by gardeners and fruit growers.



Steel Rilling around edges. Steel Runners. Bevel Corners. 7 ft. by 2, 2 1/2 or 3 ft. Write Dept. N, for Folder and Prices.

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Send your consignments of APPLES to the Home Country to

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Send details re territory and references to The Macmillan Co. of Canada, Ltd., 70 Bond St., Toronto, Ont.

CARNIOLAN QUEENS

After July 1st

| | | | |
|----------|--------|--------|--------|
| Untested | 1 | 6 | 12 |
| | \$1.00 | \$5.50 | \$9.00 |

Tested, the same price.

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R.F.D. No. 2

IF YOU WANT SOMETHING BETTER

than what you already have in the Queen and Bee line, try one of the Atchley Dollar Queens. I make a specialty of Dollar Queens, or \$10.00 per doz. Good, strong two-frame nuclei with Untested Queen, \$2.50 each; three-frame, \$3.00. Safe arrival and satisfaction guaranteed.

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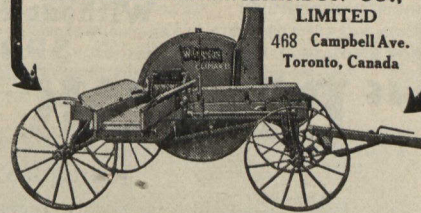
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CABBAGE WORMS *Destroyed by Dust-* *ing with* **HAMMOND'S SLUG SHOT**

So used for 30 years. **SOLD BY ALL SEED DEALERS.**
For pamphlets worth having write **B. HAMMOND, Fishkill-on-Hudson, New York.**



Fight Flies with Tanglefoot!

For 30 years Tanglefoot has been America's surest, safest, most sanitary fly-destroyer. It is non-poisonous, easy to use, and costs but a trifle. Each sheet is capable of killing 1,000 flies. And Tanglefoot not only kills the fly, but seals it over with a varnish that *destroys the germs* as well. In buying, ask for the genuine "TANGLEFOOT"—it costs you no more and lasts twice as long as the no-name kinds sold merely as fly-paper, or sticky fly-paper.

Made only by The O. & W. Thum Co., Grand Rapids, Mich.
Gasoline will quickly remove Tanglefoot from clothes or furniture.

How to Use
Open *Tanglefoot* slowly. In cool weather warm slightly. For best results place *Tanglefoot* on chair near window at night. Lower all shades, leaving one at the *Tanglefoot* window raised about a foot. The early morning light attracts the flies to the *Tanglefoot*, where they are caught. (31)



TO DESTROY APHIS, THRIPS, ETC.

Without Injury to Foliage

SPRAY WITH

"BLACK LEAF 40"

Sulphate of Nicotine

"Black Leaf 40" is highly recommended by experiment stations and spraying experts throughout the entire United States, also by Canadian experts.

Owing to the large dilution, neither foliage nor fruit is stained.

Black Leaf 40 is perfectly soluble in water; no clogging of nozzles.

PACKING:

In tins containing 10 lbs. each, 2 lbs. each, and ½ lb. each.

A 10-lb. tin makes 1,500 to 2,000 gallons for Pear Thrips, with addition of 3 per cent. distillate oil emulsion; or about 1,000 gallons for Green Aphis, Pear Psylla, Hop Louse, etc., or about 800 gallons for Black Aphis and Woolly Aphis—with addition of 3 or 4 pounds of any good laundry soap to each 100 gallons of water. The smaller tins are diluted in relatively the same proportions as are the 10-lb. tins.

PRICES: In the United States, our prices for the respective sizes are as follows:

10-lb. tin, \$12.50; 2-lb. tin, \$3.00; ½-lb. tin, 85c.

IN CANADA, Dealers usually charge about 25% to 30% over the above prices because of the Canadian duty, etc. Consult your dealer about this.

THE KENTUCKY TOBACCO PRODUCT CO.

(Incorporated)
LOUISVILLE - KENTUCKY

Fruit Crop Report

From Ontario there have been no adverse weather reports. In parts of the Maritime Provinces frosts were experienced on June 3 and 4. In British Columbia the weather has been admirable, the season being two and three weeks earlier.

APPLES

The season for apples will be a very satisfactory one. In Nova Scotia the later reports are very pessimistic. In Ontario there are certain sections where the ravages of tent caterpillar have reduced the crop. Spies are reported short in Brant and in Middlesex late varieties have not set well. In Quebec there has been much damage from caterpillars in unsprayed orchards, particularly in Huntingdon Co.

The general report from British Columbia is that a crop well above average will be harvested, particularly of the early varieties.

PEARS

The pear crop in Ontario will be a light one. In the southern counties the crop is reported fair, with Kieffers particularly abundant, but in eastern Ontario the crop will be an entire failure. In Nova Scotia over fifty per cent. of a full crop is expected. An excellent crop is reported in British Columbia.

PLUMS

The set in southern Ontario was very light and the crop will be below average. In the county of Lincoln, Japanese varieties are almost a failure and European sorts are light. Farther east in Ontario the plum crop is a total failure. In Quebec the native American varieties are good. Nova Scotia reports a heavy blossom. In British Columbia a greater crop than last year is expected.

PEACHES

So far as Ontario is concerned the reports remain practically the same as those which were published a month ago. With the exception of the Essex Peninsula and a slight scattering in Lambton county, the peach crop in Ontario is a total failure. In the Okanagan Valley of British Columbia reports on early varieties are still quite promising, and for the later varieties the general report appears to be that slightly over half a crop will be harvested. In the Kootenay Valley the peach crop is a failure.

TOMATOES

In Western Ontario, the acreage under tomatoes is the largest for many years. As a direct consequence of the peach crop failure, a number of growers planted tomatoes. There is danger that the supply of tomatoes will be much greater than the demand and that prices will be low. There has been a heavy planting of tomatoes in the Okanagan Valley in British Columbia.

CHERRIES

An abundant crop of all varieties of cherries is reported from the Niagara district and from the southern and western counties of Ontario. In Norfolk, Peel and Wentworth sweet varieties will yield only a light crop, but the report is extremely good for all other varieties. In eastern Ontario there will be a very light yield. Practically a full crop is reported from Nova Scotia. In the Okanagan district the set was not a particularly good one; in the Kootenay Valley the prospects are excellent.

GRAPES

Reports from the Niagara district indicate a crop between medium and large, and in many instances fully twenty-five per cent. larger than was harvested a year ago. —June Report of Fruit Branch, Ottawa.



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STRATFORD
EXTENSION
LADDER

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It is
LIGHT, STRONG
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AND DURABLE

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Makers of Ladders for every conceivable purpose

Latest Crop News

In Lake Ontario counties, apple crop double that of last season; cherries and plums a failure; caterpillars plentiful. Essex county—Peaches promise a full crop, with no leaf curl. Lambton county—An abundant crop of all fruits, except peaches. Annapolis Valley—A light crop between Bridgetown and Kentville; other districts better. Okanagan Valley—Apples, 25 per cent. increase; pears, 20 per cent. increase; plums, 15 to 20 per cent. increase; cherries and peaches, no increase over 1913. Pacific Coast—Sawberry crop badly injured by drought and softened by recent rains; raspberries good. Quebec—Prospects better than for several years past; strawberries came through the winter well, but drought is shortening the crop; slight winter killing of raspberries.

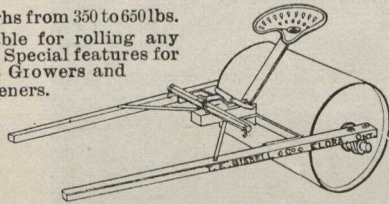
London, England, June 12.—All fruits damaged by frost in May. June weather unfavorable. Trade predicts 50 per cent. crop of apples and black cherries. Late varieties of cooking apples badly damaged. Pears and plums estimated at 75 per cent. Present season regarded as most unfortunate ever experienced.

D. Johnson, Fruit Commissioner.

British Columbia

The Hatzic Fruit Growers' Association has petitioned the B.C.F.G.A. to take some action in regard to fruit packages. The Canadian grower is compelled to ship in two-fifths and four-fifths quart baskets, while the foreign shipper can use any size he wishes. If American fruit is allowed to come on our market in smaller packages

Weights from 350 to 650 lbs. Suitable for rolling any soil. Special features for Fruit Growers and Gardeners.



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Our complete **POWER SYSTEMS** for evaporating, when installed by our experienced millwrights are the most practical, sanitary and labor saving to be found anywhere. Our prices and terms always reasonable.

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Forest tree seedling and transplanted. Evergreens, Ornamental Shrubs, Manetti, Multiflore
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Traction Sprayers

Have capacity, power and adjustment to suit every need and pumps with the least slippage of any in use on any sprayer.

They are made with single or double acting pumps, 55 or 100 gallon wood tanks, wood or steel wheels regular or wide spray bars, combination pole and thills, or either separate.

There are special spray bars for many different crops, potatoes, tomatoes, pickles, cantaloupe, grain, cotton, tobacco, etc. This list includes a new one with drop nozzles that cover the underside of the



leaves as well as the top. A six-row bar enables potato growers to cover large acreages thoroughly and in less time.

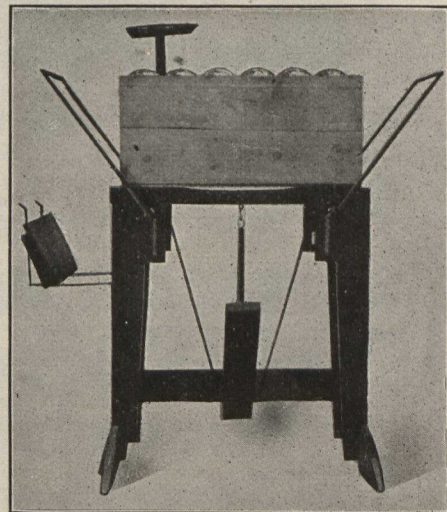
An orchard attachment increases the value of these machines to the man who also owns an orchard.

See them at your dealers and write for "spray" booklet, showing full line of Hand, Knapsack, Bucket, Barrel, Traction and Power Sprayers.

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If you pack apples in boxes, this machine will be a great convenience to you and will save you time and money. Write for prices to

J. J. ROBLIN & SON
Manufacturers Brighton, Ontario

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This Beautiful Tea Set of Bavarian China **FREE**



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

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

If you will send us 8 new yearly subscriptions to *The Canadian Horticulturist* at 60c. each, or 5 new two year subscriptions at \$1.00 each, we will send you one of these sets at once.

This is a wonderful opportunity for **you** to get a Tea Set **FREE**. Write us immediately.

THE HORTICULTURAL PUBLISHING CO.
PETERBORO, ONT. LTD.

it should be so stamped by the inspectors that the consumer will realize that there is a difference in size. The Hatzic growers complain bitterly against this unfair competition. Were allowance made for the difference in size of package, they would be willing to stand by the merits of their fruit.

It is estimated that 175,000 tomato plants were set out in the Summerland district. If these yield as expected, they should total seventy-five car loads. Last season, total shipments were less than ten car loads. Strawberries are a heavy crop.

Growers in Mission City, Fraser Valley, are elated over the success of their co-operated association. A steady market is assured, and the members are being paid cash f.o.b.

Eastern Annapolis Valley

Ennice Buchanan

On May 29 there were masses of fresh blossoms and orchardists were very jubilant over the exceptional promise of the orchards, especially old trees. Some young trees and old Kings, also those which were not sprayed much last year, did not promise so well, probably due to weakness caused by last season's aphid attacks. On June 4 there was a heavy frost. On June 3 there was one not so apparent just here, but two miles distant it browned the apple blossoms. Until the fruit sets it is difficult to estimate the amount of damage caused by these frosts, but in orchards near rivers and on low-lying lands there is no doubt that the loss is very heavy, as the blossoms and seeds were blackened. The suddenness with which the flowers went made one feel that we had lost something. On "Blossom Sunday" everything had gone, with the exception of late varieties which had not opened.

An optimistic forecast of the apple crop for 1914-15 is about one million two hundred and fifty thousand barrels for Nova Scotia, but it is likely that this estimate will be cut down to one million barrels. After the frost in 1910 an old gentleman remarked that nature's thinning made good fruit and good prices, and he hoped that the next year he would have another frost to "help him out."

Raspberries were badly winter-killed, also roses and other perennials. The strawberry blossoms have suffered after the June frosts. Tomato plants which were frosted soon began to send out new leaves in cases where the larger frozen leaves were cut off. Cherries have set well, and currants have had an abundance of blossom. A new and big demand has arisen at nurseries for currant and gooseberry bushes.

In spite of the dry time, garden seeds sown on May 15 have come up splendidly. Fortunately we covered up the tender things before the frost, but even then some of the beans were frozen through the sacks. It is better not to let the covering touch the plants when trying to protect them from frost. An orchard meeting is to be held at Mr. R. S. Eaton's, Kentville, on June 26 to demonstrate the control of the bud moth. Prof. Brittain, Prof. Blair, and Mr. George Sanders will address the meeting, for which the railway will run special trains.

As potatoes are now allowed to be exported to Bermuda, if accompanied by a "certificate of health" from the Nova Scotia Government, the officials, owing to the expense of inspection, have decided to charge three cents per bushel, but would like to hear the opinions of farmers interested.

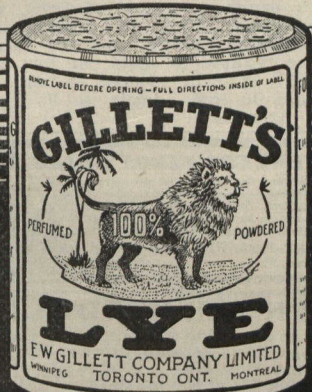
So far we find no trace of black spot.

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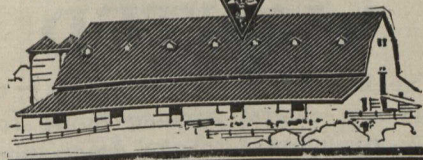


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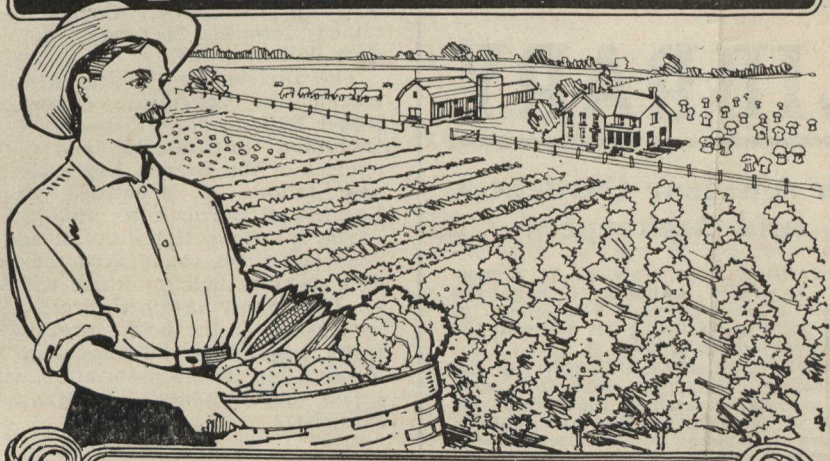
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Recent Bulletins

"Cucumber Rot" is the title of Bulletin 121, issued by the Florida Agricultural Station.

Maine Agricultural Experiment Station, Orono, Maine, issued Bulletin 225, entitled "Currant and Gooseberry Aphids in Maine. The University of Nebraska, Lin-

coln, Neb., has published Bulletin No. 142, entitled "Vegetable Gardens on Irrigated Farms in Western Nebraska."

The Ontario Department of Agriculture is distributing the annual reports for 1913 of the Ontario Fruit Growers' Association, and of the Horticultural Societies of Ontario. The annual report for 1914 of The Fruit Growers' Association of Nova Scotia is being distributed. Copies may be obtained from the Secretary, Manning Ells, Port Williams, N.S.

The Division of Horticulture of the Department of Agriculture, Ottawa, has published Bulletin No. 77, by W. T. Macoun, Dominion Horticulturist, and the Superintendent of the Branch Experimental Farms and Stations. It is entitled "Summary of Results of Horticulture, 1913."

The Manitoba Horticultural and Forestry Association has commenced the publication of a monthly bulletin which will be known as The Manitoba Horticulturist. It is to be devoted to the better growing of trees, fruits, vegetables and flowers in Manitoba. Membership in the association will include a free subscription to The Manitoba Horticulturist.

Lambton District

This was to have been a red letter year among peach growers. The large plantings of peach trees made three years ago are now bearing the first crop. The heavy winter-killing has blighted hopes for a record yield, but the crop will be fair. The drop was heavier than expected.

In Thedford, Arkona, and Forest a big crop of apples is expected. Strawberry and raspberry acreage has increased by forty acres. Currants and gooseberries are being introduced so the local association may be able to ship cars of mixed fruits. Heavy fall planting of small fruits is expected. At Arkona the crop is estimated at 20,000 baskets of plums, 3,000 baskets of peaches, and 40,000 barrels of apples.

The Lambton County Council is cooperating with the District Representative to stamp out San Jose Scale, which has made its appearance in the south of the county. A sum of money has been voted for the work.

New Books on Orcharding

A splendid book that deals with all the phases of apple orcharding, has just been issued by the Lippincotts. This new book is one of the series of Lippincotts' Farm Manuals. It is compiled in an attractive style, on good paper and is profusely illustrated. The matter is so arranged that any particular line of information can easily be found. Each chapter is reviewed in a series of questions which makes the book suitable as a student's text. The author, Prof. F. C. Sears, of the Massachusetts Agricultural College, is a thorough expert in orcharding, and anything that comes from his hand is of the best.

We are not half careful enough in the handling of our fruit. It is often marked and bruised before it goes into the barrel.—W. F. Kydd, Simcoe, Ont.

The successful fruit grower must first have a liking for his work, he must understand something about the laws of nature, he will study his soil, he will have a knowledge of insects and fungus growths, he will know what varieties are suited to his soil, climate, and market, and he will be honest in his dealings.—C. Young, Richard's Landing, Ont.

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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.

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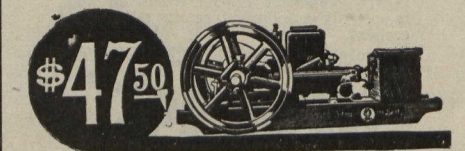
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2. THE VEGETABLE GARDEN. By Ida D. Bennett. This book deals fully with the various vegetables that form the staple of the small garden, and contains excellent chapters on fertilizers, insecticides and garden tools.

3. LAWNS AND HOW TO MAKE THEM. By Leonard Barron. With formulae for seed mixtures for special soils and sites.

4. THE CANADIAN GARDEN. By Mrs. Annie L. Jack. Contains useful information such as cultivating the land, how to fertilize, and what and when to sow and plant, pests, trees and shrubs, bulbs, vines and hedges. All these are dealt with in a simple, easily understood way. An added feature is a list of monthly reminders telling what to do each month.

5. THE FLOWER GARDEN. By Ida D. Bennett. A clear and concise summary of every possible sort of information that might be desired by any one interested in gardens.

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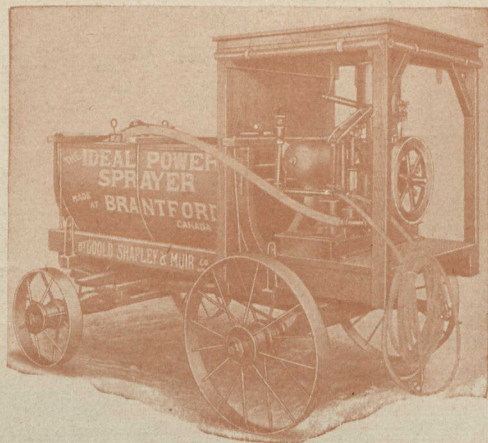
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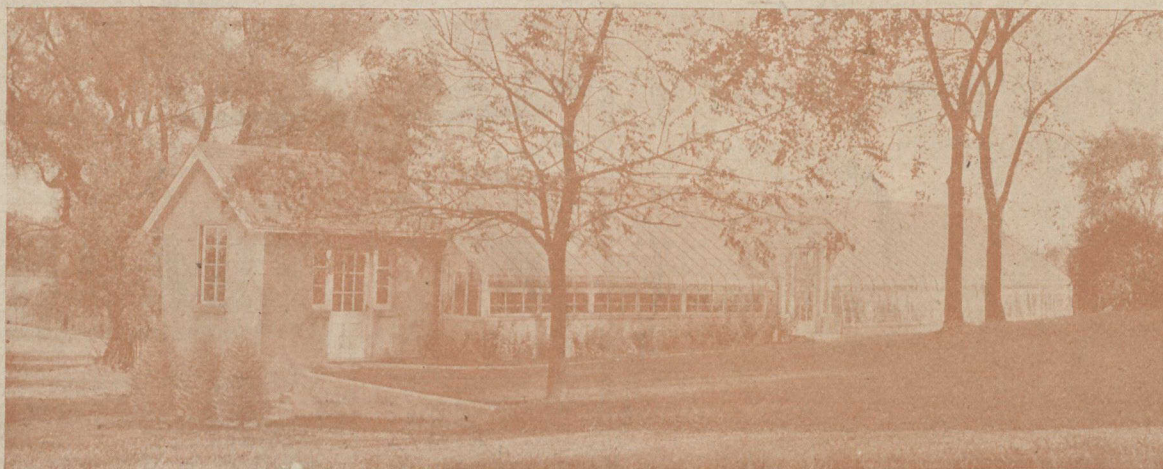
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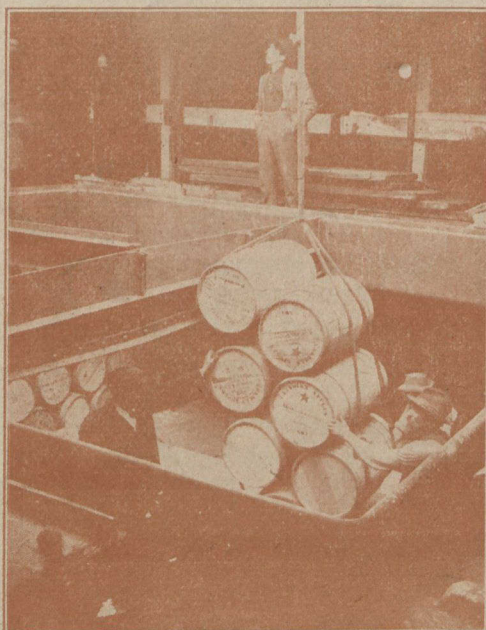
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