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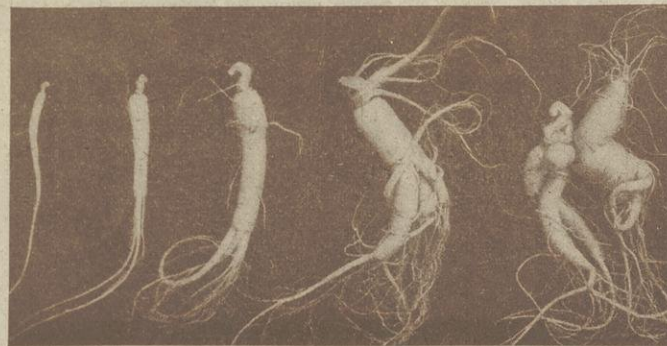
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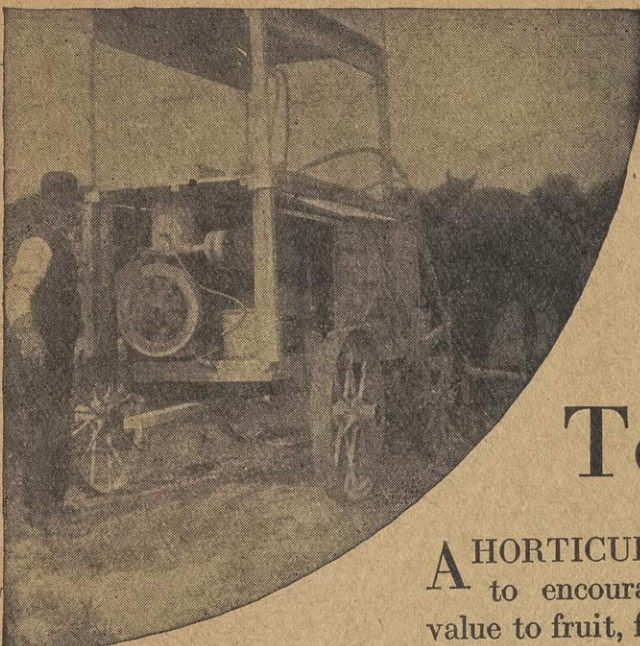
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Nos. 1 & 2

Sweet Clover as a Honey Plant

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

IN the United States, sweet clover has been recognized for many years as a valuable honey plant by beekeepers, in those sections where it was grown in sufficiently large acreage to yield surplus honey.

In Canada, and especially in Ontario, there has been considerable controversy as to whether sweet clover was of value to beekeepers as a surplus honey yielder.

A number of our prominent bee men have argued that for some reason sweet clover did not yield a surplus in Ontario. It is quite possible that until the last two or three years there was not sufficient sweet clover grown in any one section of the Province to make a noticeable difference in the surplus honey crop. To be of much value to the bees, a large acreage of any one nectar-yielding plant must be sown. While it is not known how many acres of any one of our heavy honey-yielding plants have to be sown to provide a surplus honey crop, experienced beekeepers know that a few acres are not sufficient for a commercial apiary to yield a surplus.

Two other important factors relating to nectar secretion are soil and weather conditions. These two conditions are almost a mystery to the beekeepers at the present time. Data is now being gathered, and the United States Federal Department of Agriculture are working on these problems. It is known that under certain weather conditions, and on certain soils, some plants will yield a surplus honey crop. Under other conditions, in another part of the country, the same plant may become useless from the apiarist's standpoint.

Two noticeable examples of these peculiar conditions are alfalfa and white Dutch clover. In the Western States, alfalfa yields heavily, and carloads of honey are shipped annually, while in the Eastern and Northern States it seldom yields a surplus. White Dutch clover yields a fine quality and quantity honey crop in most of the

Northern States and Canada, yet in the Southern States, even though plentiful in some regions, it is not counted as a surplus honey plant.

Last season, alsike clover was almost a failure as a surplus honey plant in many sections of Ontario, even in sections where it was grown for seed. This was unusual, and has not yet been fully explained. Also, last season was



The apiary of Yasuo Hiratsuka, Japan. He is a subscriber to the Canadian Horticulturist and Beekeeper.

the first year in which a number of our prominent beekeepers secured a surplus crop from sweet clover. A few authentic cases might be cited to show how valuable sweet clover might become. In one apiary, a colony, on scales, gained 23 pounds in a single day. Beekeepers consider ten pounds gain per day a good one. One colony in another apiary stored 500 pounds of surplus sweet clover honey in five weeks, and fully one-third of this time was unsuitable for honey gathering.

Another beekeeper secured thirty-

two pound packages of bees in June, and when these colonies were moved to sweet clover in July they were quite weak and not considered as more than strong nuclei. At the close of the season they had stored 4,500 pounds of surplus honey, had enough left for winter, and had drawn out an average of two and a half supers each, of combs from foundation.

One other case: One hundred two-pound packages were secured by express about May 12th. One-third of the packages were dead on arrival, but the others were in fair condition. The one-third dead were replaced the end of June with twenty-one one and a half pound packages. After these bees were fed and carried through till sweet clover yielded, they then gave a surplus of 6,000 pounds of honey, which paid all running expenses, interest on investment, and 25% of original investment. Ninety-nine colonies were packed for winter.

These cases show conclusively that where there is a sufficient acreage and conditions are favorable, sweet clover is a very valuable honey plant.

Sweet clover honey is light in color and, in Ontario, mild in flavor. Mixed with honey from white Dutch or alsike clover, it is an excellent table honey. Pure sweet clover honey, in Ontario, must be thoroughly ripe before extracted, or it will not keep for a long period. Yielding so heavily, it is somewhat thin in body until thoroughly ripened by the bees.

In the States, there are three varieties of white sweet clover now recognized. There is the ordinary biennial variety, which blossoms and ripens over a period of several weeks, a second biennial which ripens more uniformly and over a much shorter period, and a third variety, an annual, which is sown in the spring and yields a seed crop in the fall. This latter was grown in Michigan last season, blossomed, and set seed freely.

Although sweet clover is a valuable plant from the beekeepers' viewpoint,

the bees are undoubtedly a great deal more valuable from the growers' viewpoint. Without the honey bee, the seed crop would be materially reduced.

Honey bees play a double part. They store the nectar for the beekeeper, and in so doing produce a crop of seed for the grower.

Beekeeping in the North

F. W. L. Sladen, Ottawa, Ont.

BEEKEEPING in the near north, 200 to 300 miles from the International boundary, has many interesting features.

The long and severe winter during which the bees are confined to their hives for about seven months without a single flight, is not a serious obstacle to success, if the principles of good wintering are carefully followed; these include such essentials as good protection, strong colonies, with emphasis on plenty of perfectly wholesome stores, such as clover honey. Fortunately, the honey of the north is mostly of this description.

Wintering outside in four colony cases has been proved possible at Chicoutimi, on the Saguenay River, Que., but cellar wintering is strongly advised. Low cellars, situated deep in well-drained ground, are recommended. Unfortunately, in many places there is a difficulty in finding well-drained ground, and good bee cellars are very scarce in the north. Until these are made, winter losses will continue to be heavy. For a few colonies, a corner in the well-constructed basement of a dwelling house containing a furnace has proved perfectly satisfactory at the Experimental Farm at Kapuskasing in Northern Ontario. Not the least of the advantages of beekeeping in the north is that there are no mild days in winter to make it necessary to attend to the ventilation of the bee cellar, so that the beekeeper can spend the winter elsewhere if desired.

Colonies build up with extraordinary rapidity during the long days of warm sunshine that quickly follow the late break-up of winter. Willows, blueberries (*Vaccinium canadense*), bluebell (*Mertensia paniculata*), wild strawberry and Labrador tea are among the principal plants that help to build up the colonies in spring.

Sources of Supply.

The principal sources of surplus honey in the north are alsike, white clover, and fireweed (*epilobium angustifolium*). Alsike and white clover abound, and are spreading in cleared places in the clay regions of northern Quebec and northern Ontario, noted districts being around Lake St. John, Que., and around New Liskeard, Kapuskasing and Dryden, in Ontario.

White clover is fairly plentiful and yields nectar fairly well around Dauphin, Man., and within the city limits of Edmonton, Alta. The continuous covering of snow in northern Quebec and northern Ontario protects the clover from winter injury. Fireweed is scattered right across the continent; it becomes specially abundant in certain places after forest fires, and in the north it does not die out quickly as it does further south. Among minor honey plants are asters, particularly *Aster macrophyllus* (Ont.), goldenrods (Que. to Sask.), anise hyssop (Man., Sask. and Alta.), and wild raspberry (Haileybury, Ont.).

A Longer Flow.

The warm days and cool nights are good for nectar secretion, and the long working day helps to increase the amount of honey gathered. In northern Quebec and northern Ontario the honey flow from clover, while beginning a week or two later than it does further south, lasts four or five weeks longer. July and August are usually the best months for honey production, and the honey flow from fireweed is usually cut off suddenly by four or five degrees of frost at the end of August or early in September.

In seasons when the weather is favorable, the honey yield in the clover country at the northern end of Lake Temiskaming is high, over 200 lbs. to the colony being common, but sometimes there are periods, and occasionally whole seasons, containing many days in which the weather is unsettled, cool and wet, during which the honey flow is suspended or greatly reduced. The unfavorable periods become more frequent as one goes further north and approaches Hudson Bay. However, an average annual yield of over 200 lbs. a colony from alsike and white clover has been obtained at Roberval on Lake St. John, Que. At Melfort, in northern Saskatchewan, good yields have been secured in four consecutive years, mainly from fireweed.

The quality of the honey from the north is extra fine and uniform, there being comparatively few kinds of plants that yield honey.

It is advisable to protect the hives with packing throughout the summer, in the north. This is very necessary in

a locality that has as variable a temperature as Kapuskasing. The packing will also help the bees to ripen the last gathered honey from aster, which, in its unripe state, has been the cause of winter loss some years in northern Ontario.

The long days and long honey flows favor an extreme development of the swarming instinct. The control of swarming is, therefore, an acute problem in the north.

In regard to the race of bee best suited to northern conditions, it will probably be found that a hybrid or even the black bee, will do better in many places than the Italian, partly because nectar is sometimes obtainable in abundance at temperatures below those at which Italians will work profitably.

There is a great future for beekeeping in the north, because clover and fireweed are constantly increasing with the clearing of the land.

The Jumbo Hive

(Prof. F. E. Millen, O. A. C., Guelph.)

I am thinking of putting into use in my apiary the "Jumbo Hoffman" eight-frame hive. How and in what manner could I begin? Would it do to start it with foundation at the commencement of the dandelion flow? If so, would it make any difference in the clover honey flow?—Inquirer.

When wanting to commence with a Jumbo hive as the future brood-chamber, it is a simple matter to have the frames of foundation drawn into comb by placing the Jumbo hive-body on the brood-chamber which the beekeeper already is using. If the Jumbo hive-body is placed over the regular brood-chamber during the dandelion and fruit bloom flow, and the colony is strong and conditions favorable, the bees should almost complete drawing out foundation at this period. Once the foundation has been fully drawn and the queen is using the combs for her brood-nest, then the Jumbo hive-body can be placed below the original brood-chamber, an excluder placed on the Jumbo hive-body and the original brood-chamber placed above the excluder to be used either as a super for extracted honey or for any other purpose for which the beekeeper would like to use it. If the Jumbo hive-body is not of the same size as the brood-chamber at present in use, then the two must be made to be tight, so that the bees can only enter the Jumbo hive-body through their original brood-chamber.

If I were commencing with the Jumbo, I would use the ten-frame Jumbo hive-body as a brood-chamber, and not the eight. With a ten-frame Jumbo hive-body, ten-frame Langstroth equipment can be used for supers without any addition.

Preparing Honey Crop for Market

Harry W. Jones, Bedford, Que.

AS an article of food ready for the consumer, cleanliness and neatness are of the first importance in handling and packing honey for sale.

From the nature of the produce, honey in the comb is sealed from any chance of dust or foreign matter getting into it. But it needs to be kept in a clean place, nevertheless, and protected from any dust which may settle upon the surface of the comb or from flies or other insects which may contaminate it.

In taking comb-honey off the hives, bee escapes should always be used to clear the bees from the super. If a bee escape board is put in place the evening of the day before, all bees will be out of the super by the following morning. The honey can then be removed without fear of having the capings marked here and there with small holes caused by the bees tearing off a part of the capping on a cell to fill themselves with honey as they will do when excited. Smoking the bees out of the supers sometimes gives the honey a smoky flavor, so that bee escapes are greatly to be recommended.

After the supers are taken off, they should be stacked up in the honey house or room used for this purpose in such a way that any straggling bees that may yet be lingering in them will have the opportunity to crawl out and fly to the nearest window, where they may be released into the open air.

"Journal of Agriculture."

The room used for storing honey should be proof against the bees re-entering and carrying off or robbing any honey.

In the honey house supers are opened, and all sections that are completed are sorted out and scraped clean of all propolis or bee glue that may be on them; these are set to one side to wait until the balance of the crop has come in. The uncompleted sections are put into the super again, in the centre, and the balance filled with new sections with starters in. These sections which are not filled are useful as "baits" in getting the bees to go to work quickly in the new sections. If the honey crop is nearly at an end, enough partly finished sections can be sorted out to entirely fill a super, and these supers put back on some of the stronger colonies to complete.

Care should be taken to avoid having buckwheat honey mixed with the lighter colored grades. Buckwheat honey is very noticeable among the lighter colored honeys, and city buyers especially are very particular in buying honey to see that there is no dark honey in the cells to spoil the white appearance of the comb. As an actual fact, buckwheat honey in no way impairs the goodness of the honey, but it does spoil the look of it.

After being taken from the supers all sections should be carefully scraped free from propolis. A broken pen knife with a blade an inch or so long is a very handy thing for this purpose.

After a large enough number of finished sections are taken off so as to give an average lot of the total crop, the honey should be graded. In packing, in order to realize the highest average return per dozen, it is customary to grade the sections in such a way that a dozen will have as nearly as possible the same weight throughout the entire lot, and that the quality will be entirely the same for every dozen that is packed. In this way any case of a dozen may be used as a sample of the total lot, and in selling case by case it will be possible to assure a customer that each case is exactly alike, and a uniform price covers all. Therefore, in grading, it is usual to divide the honey into at least three classes, first the sections which are capped entirely over with not more than one or two empty cells. Owing to the fact that these sections are entirely capped, it will be found that these will weigh more than the average, which in the case of the $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{5}{8}$ section is 12 ounces. The second class will comprise the bulk of the sections. All these ought to have the comb completely drawn out and all cells capped except the row which touches the wood on all four sides; these should all weigh as nearly 12 ounces as possible. The third class comprises sections weighing about 11 ounces each, the bottom two rows of which may be only partly filled, besides the outside row next the wood on the other three sides. The sections all through should be of uniform whiteness and quality of honey.

In packing, the first row of sections are made up of evenly matched sections from the first class, the last row is from the third class, and the rest of the case filled with sections from the second class. The standard case in this country for comb honey is one holding a dozen, and quotations are based on a case of this capacity. There are some producers, however, who use a two dozen case with a glass front similar to the one dozen size. In the case the sections are placed on three or four parallel rows of thin strips of cardboard or wood, under which there is a sheet of paper covering the entire bottom of the case and lapping up on the sides half an inch or more. This is in the event that there is any leakage from the combs; if there is, it remains in the space under the sections, and is held by the paper tray from leaking out and soiling other cases. Glass fronts should be carefully washed and polished before being put into the cases.

Extracted Honey.

In taking off extracted honey, bee escapes are a convenience, but not the necessity that they are with comb



A view in the outapiary of McLellan Bros. at St. Andrew's Ont.

honey, as it does not matter much how the surface of the comb appears so long as the honey itself is of good quality. A fault that a lot of producers are guilty of, is that they extract from the hives before the bees have had time to ripen the honey, and in consequence the liquid that is extracted ferments after a while and forms a most disgusting mess that leaks out of cans or barrels and gets over everything. Never extract a frame of honey that is not at least three-quarters capped over, and if you can tier up and leave the honey stored in the combs for ten days or so after it is entirely capped over, your product will gain that much more in quality and richness of flavor and thickness.

Honey extracts best when it is warm with the heat of the hive, so the sooner it is uncapped and passed through the extractor after it is taken from the hive, the more honey will be obtained. Combs of honey that are cold are very hard to extract clean and get all the honey out from the cells. Honey that is not extracted when the combs are returned to the hives to be cleaned up by the bees is mostly wasted, as the bees simply gorge themselves with it, and very little is stored away again. After extracting the liquid honey it should be allowed to rise in order that all particles of wax capping, propolis and such like can rise to the surface and be skimmed off before bottling or filling pails.

On power-driven extractors a honey pump is generally installed, which carries the honey from the extractor to the storage tanks, where it rises and clears before being drawn off through faucets in the bottom. The smaller producer can accomplish the same end by emptying his extractor into any tin or galvanized iron lined can and then skimming the top clear before canning. A wooden barrel does not make a good place to store honey unless it is thoroughly coated all over the inside with paraffine to prevent the wood absorbing a quantity of honey and the honey from absorbing any odors or flavors that may be in the wood.

As soon as the honey is perfectly clear it can be bottled up in glass jars or put into tin cans. In putting the honey into packages, it is well to consider the market that you propose to cater to; if for retail trade you will not require a larger sized package than the ten-pound size, with a larger number of the smaller sized tins, while if for shipment in bulk, the larger-sized sixty-pound can, either one or two to a crate, is the usual thing. Packages in glass require a little more careful handling, and so the tin packages are

the more to be preferred. For some classes of grocery trade glass packages are demanded.

If the producer wishes to establish a trade it will be well to label all shipments with his name and address lithographed on as a permanent advertisement. After the containers have been filled, any drops of honey on the outside should be wiped off with a wet cloth to prevent dust, etc., from adhering. As the sixty-pound package is the standard in the honey trade, jars and cans should be crated to make units of sixty pounds each.

Insulation Tests Confirmed

(J. F. Dunn, Ridgeway, Ont.)

I HAVE just finished reading Prof. R. R. Graham's article in your December issue, in which he gives the result of exhaustive laboratory tests of the relative values, as insulators, of different materials commonly used in packing bees.

Those scientific tests were interesting to me. Lacking the apparatus and scientific skill to go into the subject as deeply as a professor of physics, the writer has in a practical way worked out about the same result as given in the article. I have found regranulated cork (dust form) the highest, and planer shavings the poorest. He gives finely cut straw next place to regranulated cork. Let anyone, who will take the trouble, pack three colonies with each material (except granulated cork), placing 12 inches on top and four inches on all sides. (I am speaking for Southern Ontario.) Listen at the entrances during the coldest weather, and one will find the degree of quietness in proportion to the scale as given by Prof. Graham.

That bees in single, double or quadruple cases, if packed in finely cut straw or very dry forest leaves (the older and more broken up the better), will come through in first-class condition goes without saying, and we have used them all. That bees in the double-walled hives of thin lumber, with one inch of regranulated cork with heavy insulating paper on each side of the packing, will in Southern Ontario bring bees through in equally as good condition, is also true. We have proved it over and over again.

That such a hive costs less than a single-walled one of 7/8-inch lumber, plus cost of packing case, when packed nearly as light, also goes without saying. That brood is not chilled, as it often is during a cold spell after fruit bloom, in a single-walled hive, after being unpacked, that it is insulated for the heat of summer, as well as the cold of winter; that it saves much time and

no little expense when preparing for winter, is also quite obvious. We are making no more single-walled hives, and are converting all our single-walls into doubles by putting a thin shell around them.

Returns From Bees

(F. W. L. Sladen, Dominion Apiarist.)

GOOD returns are obtained from keeping bees in Canada, the conditions in many parts of the country being particularly favorable for honey production. Yet much uncertainty exists, and misconceptions have arisen as to the returns to be expected. One sometimes hears that a colony of bees has produced in one season four or five hundred pounds of honey. Knowing that honey is worth 20 to 30 cents a pound, and that one man can easily look after about a hundred colonies, one is apt to form the conclusion that money is very easily made by keeping bees. Such yields, however, are exceptional, and are the result of a combination of fortunate circumstances, abundant flowers of al-sike and white clover, fireweed, or other important honey plants, a particularly industrious colony, a well trained and experienced beekeeper, and, above all, favorable weather. They cannot be obtained from every hive, nor can they be repeated year after year. Sometimes a year of failure follows a year of plenty.

To get reliable figures it is necessary to average the returns from the colonies in the apiary for a number of years. This has been done since 1912 on all the Dominion Experimental Farms scattered throughout Canada that keep bees, now numbering seventeen. The latest figures show that the average annual yield of honey has varied from 18 pounds per colony in the least profitable apiary to 133 pounds per colony in the most profitable apiary. The average annual production for all the apiaries was 63 pounds per colony, which is high enough to make a satisfactory profit. These figures indicate the importance of good management, the return of only 18 pounds having been due to inexperience. They also point to the importance of local conditions of flora, climate, and soil. There are many places where double the average honey crop can be obtained, and these places are not confined to the well settled or southern regions in Canada. Beekeepers are sometimes found succeeding in a region or location capable of comparatively low production, while few or no bees are kept in many a region

or location where the conditions indicate high returns.

In order to learn about the locality conditions that favor high production, and to help beekeepers to study these and find out what returns they are getting and may expect, forms for making apiary returns are being published. These may be obtained on application to the Bee Division, Central Experimental Farm, Ottawa. The only condition requested is that a duplicate copy of the report be returned. The returns will be looked over by an expert, who will make suggestions, and give any information relative to the management of the apiary, etc., that may be desired.

THE EDITOR'S DESK

Bees and Clover

AT the date of writing (Feb. 14) condition of clover in Ontario is fairly satisfactory. In the Northern sections of Ontario there is now a light covering of snow on the ground, and at no time during the past winter has there been prolonged spells of zero weather. Clover is reported as wintering well so far, and the colonies may be marked up as 100 p.c. to date. In the Southern sections of Ontario reports are not quite so favourable. Cleansing flights for the colonies have been general, but in the more Southern sections reports come of brood rearing in the colonies. There are also reports from the Southern counties that clover has commenced growth under the exceptionally mild weather conditions and that it has been checked by frosty weather which followed. The splendid growth made by clover during the Fall of 1920 will however stand for a great deal of trying weather.

The Honey Markets

LATEST reports reaching this office indicate that the honey crop of 1920 is moving off slowly but quite satisfactorily when compared with the movement of other foodstuffs. Honey has necessarily taken a part in the readjustment of prices following war conditions and the total recession in value has been from 6c. to 8c. per lb. since the first of September, 1920. Honey has held up remarkably in price when compared with the landslide in sugar and cane sugar syrups, and the recession in price was very slow. At the present time we do not see evidence of more than 10 p.c. of the crop left in the

hands of the beekeepers, and at the present rate of sales the whole crop should be out of the producer's hands before the harvesting of a new crop.

During the past selling season, the honey crop has been left largely in the hands of the beekeepers. Financial considerations and the uncertainty of the selling market made the large buyers very cautious. There has been at least one good result, viz., that the local markets of the beekeepers throughout the country have been developed by the beekeepers themselves, and there has been a much more persistent effort on the part of the beekeepers to develop the retail market for honey.

To forecast the 1921 market is little better than guess-work at the present time. Two facts seem to be established, however: one is that there is now no great stock of honey on hand in Ontario and the second is that honey will have to compete with preserves, jams, etc., put up at a much more reasonable cost than during 1920.

Bee Legislation

THE Provincial Legislature is again in session. Last year beekeepers were rewarded with some very progressive legislation, extending the scope of the Foul Brood Act to cover all Bee Diseases which are contagious and also placing the onus of moving diseased bees or material upon the beekeeper unless he has inspection or a permit before doing so from the Provincial Apiarist. What is needed now is sufficient money to carry out the excellent provisions provided. A slight increase of the funds granted for inspection work was provided for by the 1920 legislature, but the increase provided did not do more than take up the advanced cost of doing the work. It is a very conservative estimate to place the cost of inspection at fifty cents per hive and it is also a very conservative estimate to place the number of hives being operated in Ontario at 200,000. It is, therefore, easy to see that a vote of \$30,000, as suggested at the 1919 convention of the Ontario Beekeepers' Association is actually required to give the best results.

Besides an increased grant there is an urgent need for compulsory registration of beekeepers. We think the British Columbia authorities have taken a step in the right direction when they provided in the "Foul Brood Bees Act" the following general provision: (Section 17)

"(1) Every person who keeps bees in the province shall register his name and address with

the Department of Agriculture on or before the first day of June, 1919, and on or before the thirty-first day of March in each year thereafter, and obtain a certificate of registration. Every applicant for registration under this section shall furnish such information in connection with his application as the Minister may require, and the Minister, on any grounds that appear to him sufficient, may refuse to register any applicant. At the time of registration every applicant shall pay an annual registration fee of one dollar and fifty cents, with an additional twenty-five cents for each hive of bees kept by him over the number of six, but not exceeding in any case a maximum fee of five dollars. Every person who in contravention of this section fails to register at the time and in the manner provided shall be guilty of an offence against this Act."

"(2) Any Inspector may enter the premises of any beekeeper who in contravention of this section has failed to obtain a certificate of registration, or who fails to produce his current certificate when required by the Inspector, and may destroy all bees, combs, and hives found thereon."

One of the serious difficulties confronting the efficient performance of inspection duties even in a small portion of Ontario, is to discover all the beekeepers. There should be something done quickly to provide for the registration of all Ontario beekeepers so that inspectors may have a complete list given to them of the beekeepers in their allotted districts. With such a list at hand and a good stiff penalty provided for non-registration, the work of inspection could be much more systematically plotted out, otherwise, much time and therefore money is lost delaying inspectors while they find out all (?) the beekeepers in the district in which they are working. A small fee to cover the cost of registration is quite ordinary. The Department of Insurance of Ontario for instance register all insurance agents and a fee of \$3.00 is provided to cover the cost of registering in each branch of insurance work. The advisability of placing an extra tax on the larger beekeeper, corresponding with the number of hives, is very much open to discussion, but we have yet to hear a dissenting voice to the compulsory registration of every beekeeper. — W. A. W.

The Canadian Horticulturist

Published by The Horticultural
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FRUIT EDITION.

Devoted entirely to the interests of commercial fruit and vegetable growers—official organ of Ontario Fruit Growers' Association and of Niagara Peninsula Fruit Growers' Association.
Subscription Rates.—\$1.00 a year; \$2.00 for three years.

FLORAL EDITION.

Devoted to the interests of amateur horticulture—landscape gardening, floriculture, fruit and vegetable gardening—and to the work and progress of Horticultural Societies.
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Known as The Canadian Horticulturist & Beekeeper, and devoted to the interests of the beekeepers of Canada. Official organ of the Ontario Beekeepers' Association and of the New Brunswick Beekeepers' Association.
Subscription Rate.—\$1.00 a year.

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Communications should be addressed

THE CANADIAN HORTICULTURIST,
Peterboro, Ontario.

China, a Fruit Market

THE United States Department of Agriculture is calling the attention of the fruit growers of that country, especially the apple men, to the opportunities for developing a market for American fruits, both fresh and dried, in China. The enormous population of China is referred to and the fact that the mass of her people are fruit lovers. While the wealthy class in China has been the largest consumer of imported fruit, it is pointed out that the wage-earning ability of the Chinese is gradually increasing and that before long the mass of the Chinese people will be ready to buy foreign fruits.

There's a suggestion in this for our British Columbia fruit growers, and perhaps for eastern growers as well. The rate of duty on fruits is not sufficiently high to interfere with the development of the trade. For fresh and dried fruits, the rate is 5 per cent ad valorem, plus 5 per cent. of the duty as a port charge. A box of apples valued at \$2, for instance, would pay a customs charge of 10½ cents. The fruit shipper who seeks business in China is advised to use the trade channels already established. The Chinese do not welcome new systems to replace the ones they have in use. A real need there is the establishment of large cold-storage warehouses where fruit can be held subject to the demands of the merchants. Canadian fruit growers who have their eyes on the possibilities of expanding our export trade might give these matters consideration and study.

In the large bean fields of California harvesting is made comparatively easy by a machine that specializes on beans. This harvester is drawn by horse or tractor and is operated by one man. A rectangular frame at the front carries blades which cut two to four rows at once. The cut plants are then thrown by a toothed drum on to an inclined belt conveyor at the back. This in turn deposits them on a metal platform. Without stopping or leaving his seat, the operator can then dump the plants at any time.

A False Modesty

A WELL-KNOWN nurseryman in an Ontario city told us recently that he intentionally kept from association with the horticultural society of his town for fear of being accused of mercenary scheming. He felt that, if he were to take an active part in the work and progress of the society, his motives might be questioned, to say the least. That nurseryman is an enthusiastic horticulturist and would take great delight in assisting the society in its work and aims. He stays on the outside because he does not wish anyone to think that he was using the society for his own business interests. Surely that is a false modesty!

In our opinion, the nurserymen, seedsmen and florists of any locality should be among the leaders in promoting the development and activities of amateur horticulture in the city, town or municipality in which they live. If there is a local horticultural society, those men and their lady connections should be its most ardent supporters. If there is no society in existence, no citizens are better qualified or should be more expected to start such an organization. Although there are about 135 horticultural societies in the Province, there are still scores of places that would organize a society, if someone would make the suggestion and get busy. The local nurseryman, seedsman or florist is the logical instigator. If there are more than one of these, so much the better for the purpose. In the general interests of horticulture, they could do nothing more worth while. If their own business is benefitted—which is natural—they should be glad that they did their share of the work that brought about that effect, instead of leaving it all to others, as is done by nurserymen of false modesty.

Insure Against Hail

THE various hail storms in the Niagara District last summer should be good hail insurance advertising. In the State of Washington, which is visited sometimes by hail storms, many of the apple growers carry hail insurance. Last year most of their policies expired at midnight, September 30. At 9 p.m., that date, or three hours before the policies expired, a hail storm visited the Wenatchee Valley and did some damage. The insurance was still in effect and the growers afterwards were paid substantial sums for the losses incurred.

Niagara District growers might well protect themselves next season against a repetition of hail storms. Many growers lost last year thousands of dollars through hail. They may be the ones to escape next time. As no man knows when he may be, or may not be, the sufferer, the only safe thing to do is to take out a hail insurance policy. The man who fails to protect his crop from hail by insuring, just as he does his buildings from fire, is lax in his duty to himself, his family and the community. And he deserves little sympathy when calamity comes.

The Neglected Cemetery

THE neglected cemetery is within the limits of one (many) of our thriving towns. It is just on the outskirts of some of our villages. It may be seen from the public road in the country almost anywhere. It has been given over to weeds and bushes and briars. Here and there gullies are increasing in size with every heavy rainfall in summer. Many of the graves are

unmarked and not a few have sunken in. A number of marble or stone shafts and slabs are much out of plumb. Brick bats, broken vases, cans, shells, etc., that had been placed around and on the graves, are scattered everywhere. It is literally a dead example of unrighteous neglect. Is that cemetery in your community?

About a year ago, a few good women in a town that had a neglected burial place decided to start a cemetery improvement association. Membership was solicited and increased rapidly, each member agreeing to contribute fifty cents a month to the cemetery fund, the first year. (It was expected to reduce the fund per month in the years to follow.) Plans were matured for beginning work and a man was employed to take charge of the improvement—removing objectionable objects, surfacing and smoothing the grounds, planting and seeding and watering. Results were quick and pleasing.

Along in May, the people of the town were asked to visit the cemetery on a day appointed by the working committee. On reaching the grounds, they were surprised at the wonderful change that had been made. The sunken graves had been levelled and something like seventy-five per cent of the mounds over graves had been brought to the surface level. The chairman stated that the levelling of graves was done only with the permission of the owners of lots, but that very few had objected, and many of these later advised the committee to remove the mounds. All possible surface had been brought to a common level and most of the cemetery converted into a green lawn. Appropriate trees, shrubs, hedge plants and flowers had been worked into a pleasing landscape plan for the future. All unmarked graves had been neatly marked. Head and foot pieces out of plumb had been properly adjusted. A rest pavilion had been erected for visitors. The neglected cemetery had been made a place of respect and honor.

Publicity Needed Now

THE suggestion in these columns recently that a publicity campaign be conducted for Niagara District fruit deserves even a broader application. The fruit products of the entire Province should be advertised, and advertised now, if ever. Evidence is at hand that the western United States apple men are likely to put on a campaign of publicity in eastern markets this year that will surpass their best efforts of the past. The decision of the Interstate Commerce Commission that the increase in freight rates on northwest fruit must stand is a blow to the fruit growers of the western states that can be alleviated only by stronger and more persistent publicity. Better Fruit says: "It remains for the box apple grower (of the western states) to bring to the attention of the public on a much wider scale than ever before the merits of box fruit, and advertising will do it. With millions of consumers in this country and abroad who will not quibble over an additional quarter or half dollar for the finest quality of fruit in an attractive and easily handled package, advertising seems to present the most feasible plan of meeting the handicap of an extra marketing cost."

This matter of publicity is the biggest factor in the success of western fruits in the eastern and foreign markets. It is a matter that must be met by a similar campaign in the east. For almost a score of years, Ontario has allowed western fruits to invade her local markets without a word of public protest in the way of home boosting. It is about time that Ontario worked up.

Annual Meeting of N.P.F.G.A.

At the annual meeting of the Niagara Peninsula Fruit Growers' Association, held at Grimsby, Jan. 20, a resolution was passed asking the Dominion Government to require basket manufacturers to mark on the bottoms of all baskets made in their factories their names, or a distinguish-

ing mark acceptable to the Dominion Fruit Branch, also the year of manufacture. The resolution was the result of a warning given the members by J. R. Hastings, Chief Fruit Inspector for Western Ontario, to the effect that they should accept from manufacturers only such baskets as are made according to the specifications laid down in the Inspection and Sale Act. Although all package manufacturers had been notified repeatedly respecting the requirements, many were ignoring same. Mr. Hastings said that very few factories were making legal packages.

The express companies, according to Mr. Hastings, lost thousands of dollars last season through faulty baskets, and were fed-up with it. They would be within their rights to refuse to accept for carriage baskets that were not standard in specifications and workmanship. Growers and shippers might expect such action at any time. F. A. J. Sheppard, St. Catharines, president of the association, said that, in his experience of years as a grower and shipper, he had found the losses incurred through poor packages to cost more than all other expenses of the fruit business.

As the growers usually put the handles on the baskets on their own premises, Mr. Hastings advised that care be taken to see that the method of doing this conformed with the regulations. Particular reference was made to the 11-quart basket, which required two nails at the bottom of the handle, instead of only one, as was the practise with many growers last year.

During the basket discussion, W. H. McKelvie, St. Catharines, exhibited samples of a corrugated paper board collapsible package of six-quart size and explained its features. While it was not now legal to manufacture packages of that kind, he was

Gladioli

Selected List of These Magnificent Free-Flowering Summer Bulbs:

America, pink; Halley, salmon color, early; War, blood red; Francis King, salmon red; Peace, late white; Pink Perfection, pink; Loveliness, creamy white; Willy Wigman, blush with dark blotch; Panama, pink; Schwaben, yellow; Lily Lehman, creamy white.

\$1.00 for 25
\$3.50 per 100

Excelsior, mixed—extra first sized bulbs, \$3.00 per 100. Cash with order. No charge for packing.

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PETERBORO ONTARIO



CRANSTON'S Improved EXCELSIOR ONION

The finest Onion the world has ever seen.

For Exhibition is stands unrivalled, and has won more prizes than all other sorts put together. Pkt. 25cts.

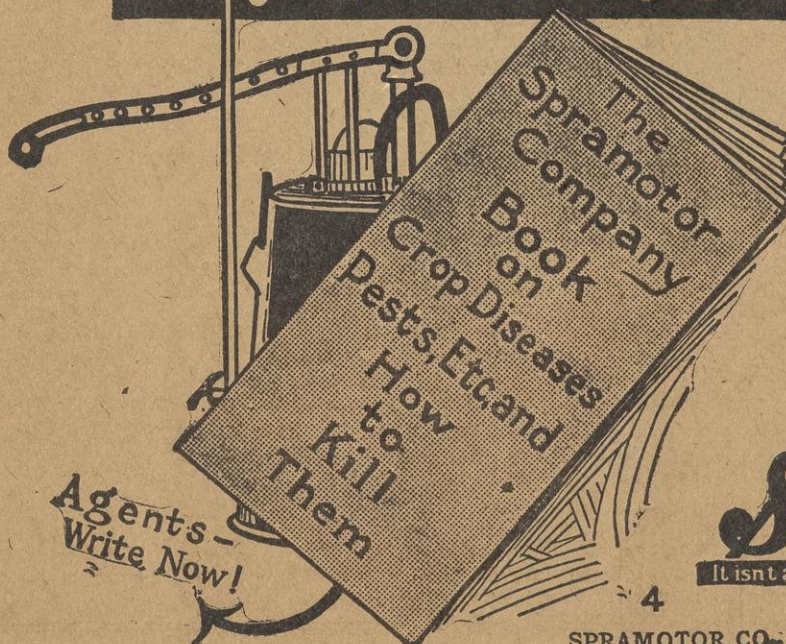
At the Great International Horticultural Exhibition held at Edinburgh, Cranston's Excelsior won First, Second and Third Prizes in the open Competition.

Ask for particulars of Cash Prizes to the value of \$50.00 we offer for five bulbs.

Send for Catalogue of Quality Seeds Free.

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This Book FREE to Responsible Farmers and Fruit Growers



Do You Know All About Spraying?

DO YOU know, for instance, that a crop of potatoes can be improved from a total loss to 400 bushels per acre, at a cost of \$1. to \$3.

Do you know that Mustard can be killed in the growing grain at 60 cents an acre?

That fruit crops can be improved 80 per cent?

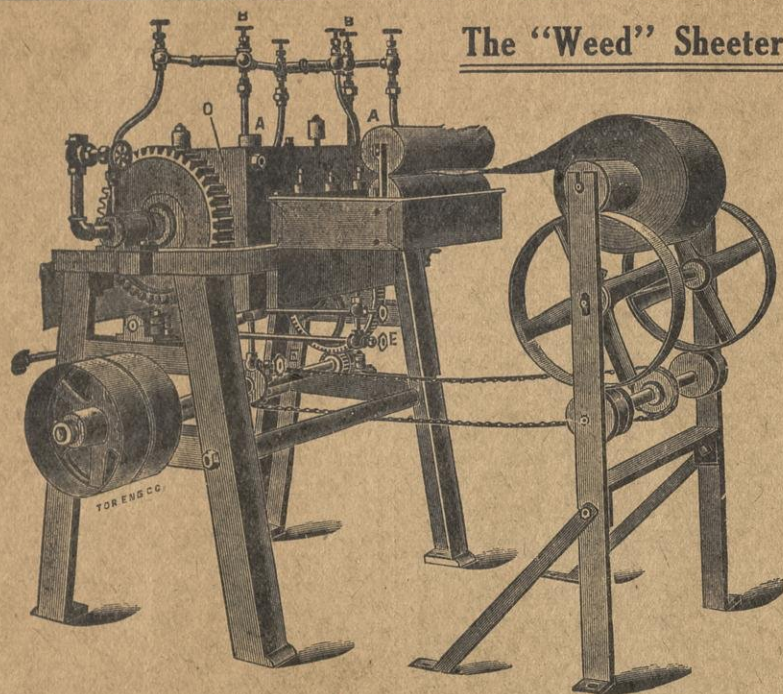
That buildings can be whitewashed painted or fireproofed for half the former cost, and made sanitary and free from disease for practically nothing?

The Spramotor doubles and trebles the profits of users. We make many styles and sizes from \$7. to \$400.—a machine for every need.

In its 25 years on the market, the Spramotor has captured over 100 Gold Medals and First Awards, including the Canadian Government's spraying contest.

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It isn't a SPRAMOTOR unless we made it

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The "Weed" Sheeter

"WEED" PATENT PROCESS COMB FOUNDATION

No other "Just as Good." Send your Wax and have it made up. Special Rate on Large Quantities.

HAM BROTHERS COMPANY, LIMITED.

BRANTFORD - - - - - ONTARIO

assured by the Fruit Branch, Ottawa, that, if the growers wanted such a package and would so intimate to Ottawa in a large and representative way, the advisability of making the type legal would be considered. Mr. McKelvie contended that many growers had used the packages last year with success for shipment to Ontario cities and to Montreal. He asked the association to appoint a committee to investigate its merits. Mr. Hastings stated that up to the present time this package had not made good. Whenever it was exposed to the slightest dampness, the basket went to pieces. He assured Mr. McKelvie that, when the package had been so improved that it would stand up under all conditions, its merits would receive full consideration; the Government was prepared to encourage the manufacture of a good serviceable basket now or at any time. The association took no action in the matter.

Other Resolutions.

A resolution was passed expressing appreciation of Hon. Manning Doherty's efforts in the interests of the fruit industry: "Whereas, the Ontario Government, in the person of Hon. Manning Doherty, Minister of Agriculture, has manifested such a keen interest in the welfare of the fruit grower and is making such a profound effort to better the growers' living and financial conditions, by assisting in the formation of a marketing organization to be known as the Niagara Peninsula Growers, Ltd., that this meeting here assembled pass a resolution of hearty appreciation for the assistance thus rendered and for his confidence in the scheme prepared, and that a copy of this resolution be forwarded to the Honorable Minister of Agriculture."

Another resolution expressed appreciation of the services and success of W. H. Bunt-

HONEY CONTAINERS

Order Them Early

We have found it constantly demonstrated that the Bee-keeper who orders his tins early, and so secures prompt delivery is the one who can take care of his crop, and meet the various contingencies of the season.

We have a reasonable supply of containers on hand and preference will be given to those orders which are received early.

May we ask you to co-operate with us towards making a better delivery service by placing your order at the earliest possible date?

Our illustrated circular and price-list is being sent out. If you do not receive yours, drop us a card.

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TORONTO, CANADA

ing and F. A. J. Sheppard, St. Catharines; C. D. Carpenter, Winona; H. T. Foster, Burlington, and Mr. Fletcher, Clarkson, in going to Ottawa on various occasions and interviewing the Railway Commission on matters of vital importance to the fruit industry.

President's Address.

President Sheppard, in opening the meeting, referred to the work of the association during the past year. It had been instrumental, in a large measure, in retaining the Horticultural Experiment Station at Vineland for the Province of Ontario, rather than see it turned over to the Dominion, as had been proposed; in having the main roads of the district oiled early in season, rather than late, to the advantage of the crops; and in doing many other important functions for the benefit of the fruit grower.

The president expressed regret at a decrease in membership of about 50 per cent

in the past year or two. The membership now was less than 200, when it should be 1,000 or more.

Should Have 1,000 Members.

Secretary C. E. Fisher and others thought that 1,000 members were not too many to expect from a district that contained eight or more times that number of growers. W. H. Bunting cited the past work and influence of the association as a good argument why all the growers of the district should join. S. H. Rittenhouse, Jordan Harbor, thought that the association should hold small meetings at local points, and often, to stimulate interest. J. B. Fairbairn, Beamsville, suggested the appointment of an organizing and membership secretary. F. G. H. Pattison, Winona, thought that Wentworth County should give a grant to the association as is done by Lincoln. James Marlow, Grimsby East, thought that the directors themselves should wake up and canvass for members in their respective localities. After a thorough discussion, a committee was named to take the matter under further consideration and probably appoint one or more paid canvassers. This committee comprised W. H. Bunting and F. A. J. Sheppard, St. Catharines; J. B. Fairbairn, Beamsville; Hamilton Fleming, Grimsby, and S. H. Rittenhouse, Jordan Harbor.

There was a long discussion also on the advisability of changing the constitution so as to permit of electing directors in a more convenient and comprehensive way than now prevailed. A motion to this effect will be presented at the next annual meeting.

Help Wanted

If you would like to work from June till September in one of the largest and best equipped apiaries in Canada, write me. Prefer one lady and a strong young man, or man and wife.

I have about 100 empty hives and supers with self spacing wired frames. Could supply some drawn comb for bees by the pound. Would sell or give on shares. If preferred would put five swarms on foundation, and you have the option of buying. A splendid chance to get a start.

Address—

G. A. DEADMAN, Daytona, Fla.
After April 1st, Brussels, Ontario.

Quality Queens

Season 1921

Many "big men" of beekeeping say they have no time to fuss with all the worry of raising queens—preferring to buy queens from specialists who make that important work a business.

I represent several of the best breeders in the South — men who "do things" in queen breeding and can furnish the very best of queens.

Price \$1.75 each—special price for quantities.

Safe delivery guaranteed.

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BEES

"Made in Canada."

We are booking orders now for three banded Italian bees bred in our own yards, for shipment the latter part of May, weather permitting and in June. Orders filled in rotation.

Early
Shipment. July.

1-lb. package with Un- tested Queen	\$5.00	\$3.85
2-lb. package with Un- tested Queen	8.00	6.50
3-lb. package with Un- tested Queen, after June 25th		10.00
For Tested Queen add \$1.00 extra per package and for Selected Tested \$1.65 per package.		
10% advance payment must accompany all orders.		

BEEWAX WANTED.

We are open to buy beeswax in any quantity. Write us what you have to sell or get our prices for making up your foundation by the "JONES-WEED PROCESS."

Our 1921 Price List of Bee-Keepers' Supplies, Bees and Queens has been issued. If you did not receive a copy we will be very pleased to mail one on receipt of your address.

F. W. JONES & SON,

Manufacturers of Bee-Keepers' Supplies, Breeders of Bees and Queens.
BEDFORD, : : : : QUE.

Plant The New

Delicious

Apple

The Greatest Winter
Apple of a Century

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

Fruit unsurpassed for beauty, quality and flavor.

Sells for higher price than any other apple.

Extra fine Two and Three-year trees for

SPRING DELIVERY.

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

WRITE FOR FRUIT LIST.

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Established 1837

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We carry a Complete Line of the Best Supplies always in Stock.
Catalogue on application.

Let us have your orders early, so that you may reap the benefit of the "Cash-with-order" Discount, and also avoid the rush occasioned by the busy season.

Our New Factory is now in full operation, and ready to handle your orders promptly.

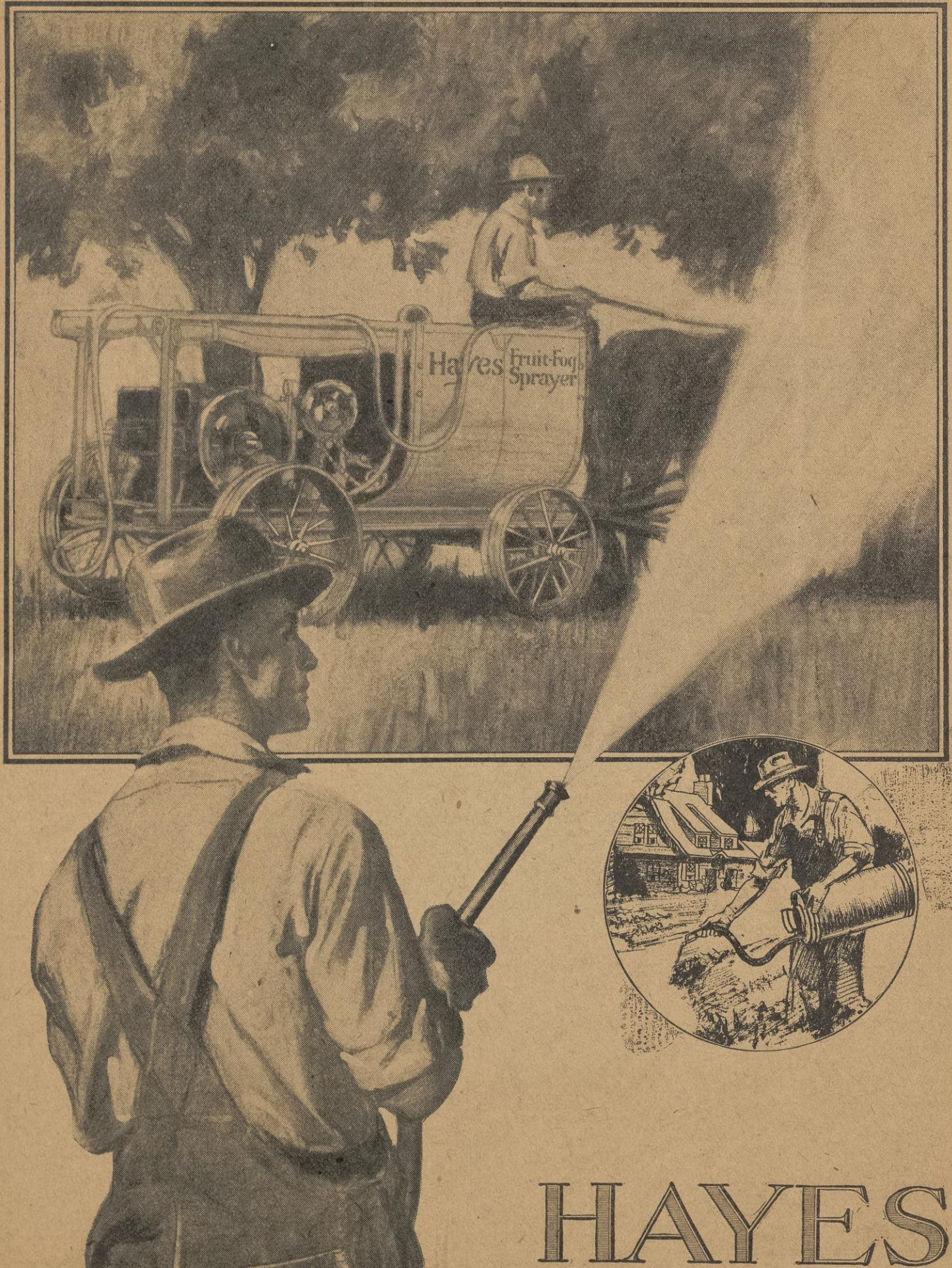
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HAYES

Amazing Yields From "Fruit-Fogged" Trees

TO-DAY, after six years of remarkable performance in every fruit-growing section, Fruit-Fog is acknowledged the most thorough form of spray.

Fruit-Fog, the Hayes Super-Spray, scientifically atomized the solution to a vapory, fog-like fineness.

It envelops everything like a mist. Covers every twig, branch and leaf. Works its way into microscopic niches, cracks and crevices in bark, buds and foliage. Kills not alone the outside pests, but also the millions of hidden pests that no ordinary coarse spray can reach.

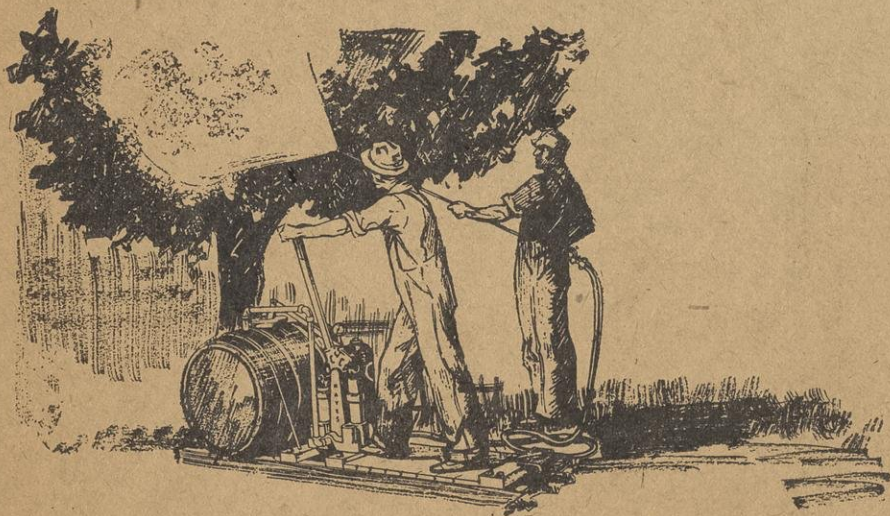
Send the coupon for our FREE Book and get all the facts about the Hayes System of Fruit-Fog Spraying. Learn how it is produced by Hayes' 300-pounds high pressure and the scientific Hayes nozzle. How Hayes' Power Sprayers are scientifically made to give endurance and greatest efficiency under high pressure. And why the famous Fairbanks-Morse "Z" Engine insures reliable engine service.

Learn also how Hayes' Hand Sprayers kill the bugs, lice and mites—make your potatoes grow, your hogs put on money-making weight, and increase egg production from your poultry.

Send the Coupon To-day.

Tell us what you want your Sprayer to do, and we will tell you the Style best suited to your needs, and its price. We will also send the New Book of Hayes' Sprayers and Valuable Spraying Guide FREE.

HAYES PUMP & PLANTER CO., Dept. C., GALVA, ILL.



FRUIT-FOG Sprayers FOR ALL PURPOSES

50 Styles of Hayes Sprayers



Hayes Hand
Barrel Spray
Pump



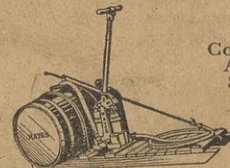
Hayes Bucket
Hand Spray
Pump



Hayes Wheelbarrow
Hand Sprayer



Hayes
Compressed
Air Hand
Sprayer



Hayes Duplex Hand Sprayer



Hayes Triplex Fruit-Fog
Power Sprayer



Fairbanks-Morse & Co.

distribute Hayes Power Sprayers, Engines and Repairs. Users of Hayes Power Sprayers are therefore within only 24 hours of a service station at all times. In case of accident at a critical time, this quick service may save your fruit crop. Hayes Hand Sprayers are distributed by Hardware and Implement Jobbers.

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Please send FREE and without obligation your Big New Book of Hayes Sprayers and your Valuable Spraying Guide.

No. of Trees

Average age

Other uses

Name

P. O.

State R.F.D.

In the meantime, with the consent of the members present, directors for 1921 were materially cut down in number.

Officers Elected.

The election of officers and directors for 1921 resulted in the following appointments: Hon. pres., F. G. Stewart, St. Catharines; pres., John P. Bridgeman, Winona; 1st vice-pres., A. Onslow, Niagara-on-the-Lake; 2nd vice-pres., J. B. Fairbairn, Beamsville; 3rd vice-pres., A. A. Craise, St. Catharines; 4th vice-pres., James Marlow, Grimsby East; sec.-treas., C. E. Fisher, St. Catharines; hon. directors, Senator E. D. Smith, Winona; J. D. Chaplin, M.P., St. Catharines; Capt. E. J. Lovelace, Mayor of St. Catharines; E. F. Palmer, director Hort-

icultural Experiment Station, Vineland; the members of Parliament and county agricultural representatives for Lincoln, Wentworth and Welland.

Directors were elected, as follows, the first-named man in each township to act as a member of the executive: Niagara—H. Usher and W. W. Armstrong, Queenston; C.

TREASURER'S REPORT.

Receipts.

Balance from year 1919	\$176.09
Ontario Government grant	150.00
Lincoln county grant	50.00
Membership fees and subscriptions to papers	223.00

\$599.09

Expenditures.

Expenses paid speakers to annual convention	\$ 22.00
Hall rents for meetings	27.00
Expenses of delegates to Toronto, etc.	220.37
Phones, telegrams and postage	26.41
Printing and advertising	52.27
Subscription to Canadian Horticulturist and Farmers' Sun.	69.90
Membership buttons	22.00
Allowance to sec.-treas.	100.00
Balance carried to next year ..	59.14

599.09

VAN'T HOF & BLOKKER

Akersloot, Holland.

Announcement of Spring Importations, 1921.

ROSES

1. A limited number of cases, similar to those supplied Horticultural Societies in 1920.
525 choice plants in 45 best varieties of hardy hybrids, selected for Canadian trade. \$225.00 a case, delivered to Ontario points. All charges paid.
2. A fine selection of 50 plants in 10 choice varieties, \$25.00. All charges, including duty, paid to Toronto.

Orders should be placed before February 10th, if possible.

GLADIOLI

A selection of the choicest varieties selected for Ontario customers.

Orders accepted up to March 1st.
Send for lists to

CANADIAN OFFICE,
430 BRUNSWICK AVE.

TORONTO, - - - ONTARIO.

Howard Fisher and R. C. Dawson, Niagara-on-the-Lake. Grantham—W. H. Bunting, Geo. A. Robertson, Geo. X. Walker, P. McDermid and F. A. J. Sheppard, St. Catharines. Louth—St. H. Rittenhouse, A. H. Culp and W. M. Gayman, Vineland; A. C.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.75 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Toronto, Ont.

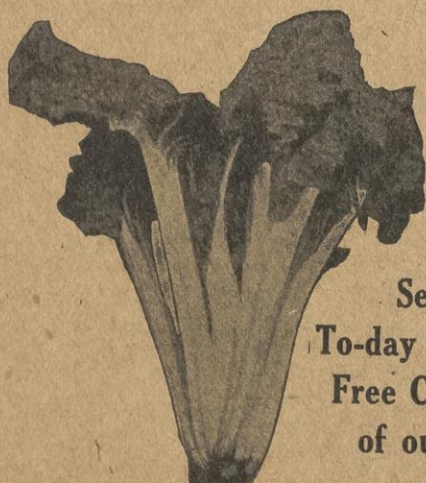
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And everything good for garden and lawn. None better—none cheaper.

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FREE!!!

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The treasurer's report showed a balance on hand of \$59.14. The receipts and expenditures are given in a panel on page 14.—A. B. C.

Apples in Storage

In Storage: Apples scald less in boxes than in barrels and less in ventilated barrels than in tight ones, especially if the storage room receives considerable ventilation.

They scald less in well-ventilated cellars and air-cooled storage houses than in un-ventilated commercial cold-storage plants, but the higher temperatures of the former are, of course, undesirable.

Storage plants that follow the practice of allowing fresh outside air to sweep through the storage rooms occasionally when weather conditions permit, report great benefit in the way of scald prevention.—Office of Fruit Disease Investigations, U.S. Department of Agriculture, Washington, D.C.

Market Conditions in Great Britain

J. Forsyth Smith, Fruit Trade Commissioner

THE quantities of apples coming forward during the half-month ending December 11 have been greatly in excess of those for the last two weeks of November, 588,030 cwts. (long) as compared with 353,131 cwts., and have been within 55,648 cwts. of the total during the two weeks of the marked slump in values in the middle of October, 1920. They were also over double those for the first two weeks of December, 1916 and 1919, while the quantity imported from Canada has been over three times that for the corresponding periods of the same years and four times that during the last two weeks of November, 1920. The proportion of shipments from Canada increased from 22 per cent from November 13 to November 27 to 50 per cent from November 27 to December 11.

Price Range.

While the range of values in boxed apples is seldom more than 2s., barrel apples frequently vary in price from 9s. to 12s. It is clear, therefore, that the system of grading in barrels is not what it should be. It is surely worth while to secure \$2 to \$2.50 extra by superior packing. The best packers of barrels are constantly securing this premium over their less skilful or more dishonest competitors. There is something wrong with many of our packs when such great differences are found between the values of the best and of inferior sound packs.

Ontario Spies.

The wide range of values shown in connection with Ontario Spies is due to the fact that this variety generally has reached the market in more or less unsatisfactory condition. Samples of Ontario Spies excite more interest in the auction saleroom than any other variety offered, thus sufficiently evidencing the popularity of this variety. Unfortunately, the bidding that ensues does

JOHNSON DUSTERS

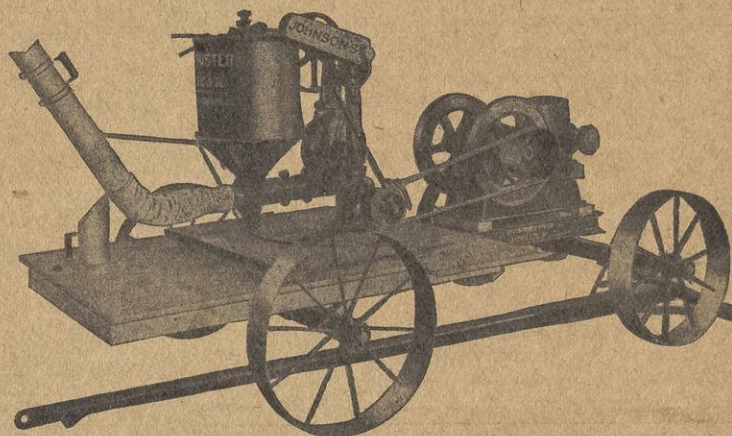
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Were used in experiments conducted by the Canadian Agricultural Department in Nova Scotia and New Brunswick. The results obtained with JOHNSON DUSTERS and the Dust Mixtures produced and recommended by Government Entomologists have been very satisfactory. Their dusting reports show better control of orchard pests at a considerable saving of time and money.

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Reasonably Priced.

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PIONEERS of Dusting Method and Machines

Our first Canadian Patent issued August 5, 1902.

Johnson Dusters have "Blazed the Trail" for 20 years. Johnson Dusters proved successful in the FIRST as well as the LAST experimental tests under State and Governmental direction. Growers have recommended JOHNSON DUSTERS for 20 years.

The satisfactory results obtained with JOHNSON DUSTERS in these Dusting Experiments show the reason why you should buy a JOHNSON DUSTER.

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"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable. Write today for our 168 page FREE book on DEAFNESS, giving you full particulars and testimonials.

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The Merchants Bank is of very practical assistance in helping the Farmer—to obtain Tested Seed Grain—to settle Harvest and Threshing Expenses—to pay off Hired Help—to order the winter's supply of Coal—to purchase Pure Bred Cattle—to realize on Grain Storage Tickets. Avail yourself of this complete Banking Service.

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THE twenty-dollar-a-week man who has a savings account, is richer than the fifty-dollar-a-week man who spends all he makes. Money in the bank is your best insurance against emergencies.

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SMALL FRUIT PLANTS

Gooseberries—Josselyn, Downing, Houghton.
Currants—Perfection, Fay, Ruby, Cherry, Boskoop, Giant, Lee's Prolific, Champion, Victoria, Naples.
Raspberries—Herbert, Plum Farmer, Shaffer's Colossal, Columbia, Cuthbert.
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not correspond with the interest manifested, as the first consideration from a buyer's point of view is always the possibility of delivering the apples bid for in sound condition. With the possible exception of Golden Russets, the Spy is easily the favorite barrel apple on the market, and yet the sound condition of Virginia York Imperials, a variety quite inferior, constantly brings higher prices, due solely to condition. It is strongly recommended that the smaller sizes of Ontario Spies be packed for export in boxes. The box pack will secure better condition on arrival, with consequent higher prices.

The boxed apple market has steadily weakened, owing to heavy supplies of American apples, the only variety that has maintained a satisfactory price being the Yellow Newtown, and a few Cox's Orange and Ontario Golden Russets, the popular sizes of which have brought the control price of 23s. 6d. Other boxed varieties have ranged from 16s. 3d. to 22s. Values of the Yellow Newtown have been upheld not only by the special popularity of this variety on the market, but by the fact that comparatively few, whether from California, Oregon or British Columbia, have been offered.

The Working of Control.

As far as barrel apples are concerned, the reimposition of control has not affected the situation very much except as regards the very choicest fruit, the quantities that would have exceeded 68s. on a free market being practically negligible. Golden Russets are the only variety that, on a free market, might have exceeded the control price of 68s. With regard to boxed apples, the quantities offered have been so great that there is practically no variety, except possibly some of the best Oregon Newtowns and Ontario Golden Russets, that would have exceeded control, if the restrictions did not exist.

Similarly, the control regulations as to slack and wasty lots are practically imperative, as the market has not permitted prices in excess of the control limit.

Canadian Soft Fruits.

A shipment of 1,002 cases of pears and plums to Glasgow, ex ss. Saturnia, October 12, arrived in ordinary stowage, without refrigeration, in very bad condition. The Howell and Beurre Bosc pears, in half cases, were practically worthless and sold at 2s. The Duchess and Clairgeau half cases were in somewhat better condition, and sold at 10s. to 18s. All the plums in half-cases were worthless.

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Upon the quality of the seed you plant depends the yield and quality of your crop. Our potatoes are grown especially for seed purposes, carefully treated, sprayed and Government inspected. Varieties: Clark's No. 1, Ey. Queen, Bell's Deposit (an improved Cobbler), Up-to-date, Beauty of Hebron, Rochester Rose. Also Potato Seed from balls. Catalogue free.

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NIAGARA PENINSULA

Grape Growers' Meetings

THE Niagara District Grape Growers', Ltd., in its first season's operations (1920), did business to the extent of approximately \$500,000. The gross profit was about \$91,000. Overhead expenses of \$57,000 for freight, duty, commissions, baskets, etc., left a net profit of \$34,000 for proportional distribution among the grower-members. These figures were given at a meeting of shareholders held at Stoney Creek on Dec. 29.

During the season, approximately 415 carloads of grapes were shipped to the United States. These grapes netted the growers \$95 a ton in 11-quart baskets, \$90 a ton in six-quart baskets and \$80.20 a ton in American bushel baskets, or a net average return to the grower of \$84.10 a ton. Considerable business was done also in Canadian markets, including apples to the value of \$16,000.

General Manager R. J. Montgomery expressed the opinion that, had the company been longer organized and other conditions favorable, sales in the United States could have been doubled. President T. J. Mahoney was optimistic respecting the future. "If the Canadian wine manufacturers do not want our product," he said, "we can sell our entire output in the United States. This year (1920) we averaged \$84.10 a ton net price to the grower. Next year (1921) I am confident that we can get \$100 a ton clear, or in excess of that, if we only hold together."

At a meeting at Stoney Creek on Jan. 21, Mr. Mahoney said that the growers had determined to control the grape crop of the Niagara district, as they believed that the men who produced the crops were entitled to dictate the price, not the wine manufacturers or the grape juice interests. The American market offered better prices than

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is not a conductor of cold and therefore we can positively say crops under it will freeze no sooner than those under glass. In fact we have many customers who claim it will give better protection from cold than glass.

GLASS CLOTH softens the harsh bright sun just enough to make your vegetation grow natural, without that forced effect common to glass.

GLASS CLOTH does not dry and harden the soil so rapidly as glass, and it is therefore easier to keep the bed in proper condition and not so liable to suffer when neglected for a few hours. Our customers often advise us of better results than under glass right by its side. Catalog free.

Give GLASS CLOTH an honest trial. Sample 3x15 feet, prepaid, \$2.00.

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An improved Fungicide particularly adapted for prevention of potato blight, grape mildew, etc.

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An Insecticide which has met with favor, and is specially suited to certain fruit sections.

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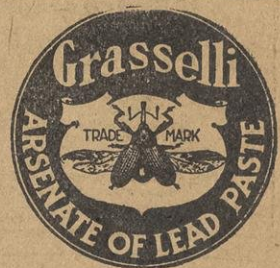
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All Flowering Size Bulbs
1 1/4" and Over

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

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

ROBERT CAMERON

210 Ontario St. St. Catharines, Ont.

the Canadian market. Instead of American grape growers being alarmed at the influx of Canadian grapes, Mr. Mahony said that several of their representatives at the convention of the National Grape Growers' Association at Cleveland in January showed that they were only too glad to co-operate with Canadian growers, even to the extent of approaching the department of agriculture at Washington with a view to having the duty on Canadian grapes removed.

At this meeting, a scheme was mentioned whereby the Grape Growers', Ltd., would co-operate with the proposed Niagara Peninsula Growers', Ltd., in the marketing of all kinds of fruits in Canada and the United States. This scheme is explained briefly elsewhere in this issue of The Canadian Horticulturist.

The Grimsby Meeting.

At various meetings held throughout the grape belt in recent weeks, the growers almost unanimously signed up with the association for the handling of the 1921 crop. At Grimsby, on Jan. 4, it was stated that

the best selling package in the United States was the 11-quart basket, but it was not a legal package in that country and had to be stamped in large letters, "10 quarts." The basket in general use in the United States is a 12-quart (wine measure) basket. The association proposes next season to secure a large quantity of such baskets, either imported from the United States or manufactured in Canada under special Government permit.

It was pointed out also that if the grapes were put into 12-quart baskets, this year, the price will probably run from \$120 to \$140 a ton. The grapes will carry much better than they do in the bushel baskets, and will thus enable the Canadian grower to establish a reputation for Canadian grapes in the United States that will be a very valuable asset, as Canadian grapes, when delivered in good condition, command the highest price in the American markets.

It was also pointed out that it would not be necessary for the grape growers to go into the planting of more vineyards, extensively, as by better cultivation and fertilization, they could almost double the crops on the vineyards already planted and thus bring themselves greater profits than would accrue from the planting, at very high cost, of new acreage.

The grape growers were advised to come forward at once and contract their 1921 crop, so that the company may be in a position to make preparation to secure packages in plenty of time for next season's crop, and also to make preparations for its sale, not only in American markets but also to Canadian wine and juice manufacturers and to the general Canadian trade.—A. B. C.



McConnell's Plant Catalogue

Lists over one hundred varieties of small fruits, etc. The leading varieties of Strawberries, including Everbearing; Raspberries, Currants, Gooseberries, Grapes, Blackberries, Asparagus, Rhubarb, Ornamental Shrubs, Bulbs, etc. Express and postal charges prepaid on orders anywhere in Canada. Write for free copy.

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130-Egg Incubator and Brooder Both For \$23.75

If ordered together we send both machines for only \$23.75 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$23.75 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

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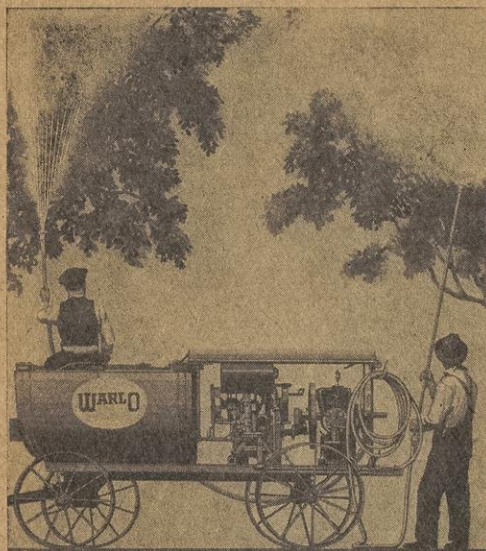
Tomato Growers' Meet

At a largely attended meeting of tomato growers at Grimsby, Jan. 7, it was moved by Hamilton Fleming, and seconded by H. K. Griffith, that "whereas, it has been rumored that canning companies intend to reduce the contract price of tomatoes for the season of 1921, we, the fruit growers assembled at a meeting called by the organization committee of the Niagara Peninsula Growers, Limited, at Grimsby, Jan. 7, 1921, therefore submit that according to a reliable estimate a contract price of 30 cents bushel will show a loss of \$10.90 acre. We therefore delegate T. N. Woolverton to bring this matter to the attention of the Minister of Agriculture for Ontario with a request that he allow the department of farm economics of the Ontario Agricultural College to assist in determining the exact cost of producing a bushel of tomatoes, and if possible that this information may be available at an early date." The resolution was carried unanimously.

After Standard Grades

During its preliminary work drafting plans for organization in the Niagara Peninsula, the sub-committee discussed ways and means of improving packs and grades. To assist in dealing with this matter, a special committee was named, consisting of E. M. Smith, Winona; H. K. Griffith, Grimsby; J. B. Fairbairn, Beamsville; E. F. Palmer, Director of the Horticultural Experiment Station, Vineland; F. Blaikie, St. Catharines; C. Howard Fisher, Niagara-on-the-Lake, and H. T. Foster, Burlington.

This committee met and drafted definitions for grades for peaches and other tender fruits. The suggestions were sent to the Fruit Branch, Ottawa. Details will be published later.



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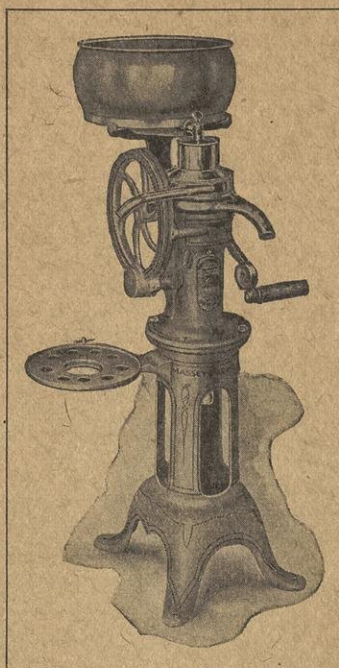
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Write now for the new "Warlo" Sprayer Catalog. Thoroughly investigate the "Warlo." Study the 35 Exclusive Units of "Warlo" Sprayer Construction. Then you will understand why we say "It does pay to spray the 'Warlo' Way."

Ward-Love Pump
"CORPORATION"
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ROCKFORD, ILLINOIS



Locked In Neutral To Drive Filler Pump To Drive Spray Pump



Why Not Make Your Dairy Pay—Fully?

You Can Do It With
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Cream Separator

*Easy to Fill,
Easy to Turn,
Easy to Clean*

On page 2 of our new No. 6 Cream Separator folder we read that—

"This separator saves the smallest globules of butter fat, which are the richest, and . . ."

but the folder is yours for the asking. A postcard to our Advertising and Printing Dept. will bring it. That's right. Mail it to-day.

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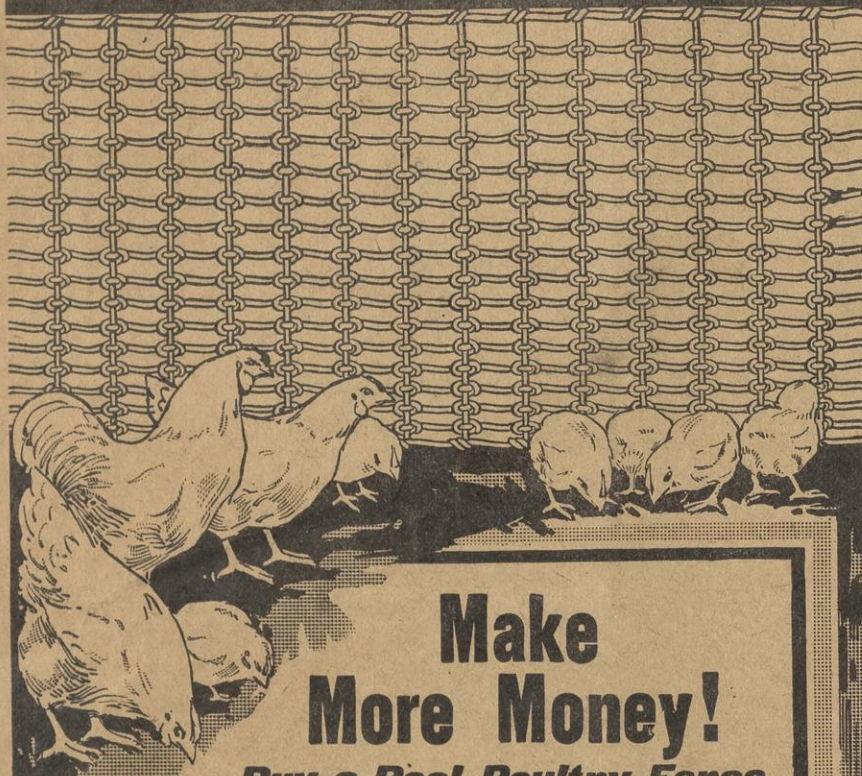
Johnson's No. 6 Duster
for Potatoes,
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is easily constructed, requires less posts. You don't need a top or bottom board to keep it in place. Lasts many times longer than netting because its wires are larger, stronger, and the fence itself is attractive and durable. There is no buckling of wires. It is easily constructed over uneven ground; no sagging or bagging as in the case of the flimsy netting, and when it is once properly constructed it is there to stay. It gives you real fence satisfaction. Poultry farmers all over Canada testify to its value. It is the "Farmer's Friend" kind. Poultry in Canada has gone a long way toward keeping the home table supplied while the boys were "over there." Build the poultry business for permanency as a business. Sarnia Fence will do its part. Will you do yours? In your new drive for business, don't forget that poultry is a business, and that Sarnia Poultry Fence is necessary to your success.

Sold and shipped direct from factory to farm, freight prepaid. Send for our descriptive literature about farm fencing, gates, lawn fencing and supplies. Prepaid freight prices are quoted in Old Ontario, New Ontario, Quebec, Maritime Provinces, four cents per rod extra. Our office at Winnipeg takes care of all Western Canada business. Shipments made F. O. B. Winnipeg. Order now. Have your fencing in hand early, and when you need it. Let's tell you what the Sarnia Poultry Fence will cost laid down at your railroad station in whatever quantity you may desire.

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SOCIETY NOTES

London

The annual meeting of the local Horticultural Society was held in the Public Library January 14, with a good attendance of enthusiastic members. The financial report showed a balance which augurs well for a good 1921. The membership was disappointing, not having reached the thousand mark. In 1919 there were 1604 members.

This year an effort is to be made to reach the 2,000 mark or over. More members mean more enthusiasm. So will any member in 1919 or 1920 not paid up, kindly do so at once.

There is some missionary work necessary in horticulture, and the directors intend to do some this year, if they get the backing. Judging from the last directors' meeting and the annual meeting some community work will be undertaken this year; some spot that has heretofore been neglected brightened up and made more presentable. We want the membership, for the larger the membership the greater the grant, and we want both.—E. W.

Leamington

Our Horticultural Society held its first annual meeting on January 14. Dr. F. E. Bennett, of St. Thomas, addressed the members and gave his lecture, "Cook's Tour of St. Thomas," with lantern slides. He also showed slides of Boston Arboretum. These were much appreciated by his audience, and it is hoped will prove an inspiration to the members for a larger and more active society. The following officers were elected: president, H. Lendon; 1st vice-president, G. Campbell; 2nd vice-president, Mrs. B. W. Cox; secretary-treasurer, Mrs. A. Kinder. Directors, (two year term)—Mrs. George Maxon, Mrs. Lewis Wigle, Mrs. L. J. Wright, D. W. Anderson and Burwell Wigle.

Plant and Seed Improvement

In schools where botany or allied subjects are studied, it is usually the custom to study wild plants. Such plants possess striking flowers with clearly defined parts and are well suited to a botanical examination. Plants like oats, on the other hand, are seldom studied. One of the purposes of the new pamphlet, "A Guide in the Study and Improvement of Plants and Seeds," prepared by the Canadian Seed Growers' Association, and obtainable free upon application to the Publications Branch, Department of Agriculture, Ottawa, is to encourage a greater interest in this important plant.

The fact that different oat plants taken from a field may differ very considerably in practical value, and may mark the starting point of new and superior races, provides an opportunity to engage in a most interesting line of investigation. Such a study, moreover, should help to arouse a new interest in farming and in farm life by demonstrating, among other things, that more profitable varieties are often obtainable right at our doors.

Unity of expression in landscape art depends upon having and following a definite predetermined plan or scheme.

THE HORTICULTURAL DIGEST

Sulphur for Soils.—Remarkable results are now being obtained by the use of sulphur for many soil crops and in preparing soils to secure more complete action from the use of other fertilizers. Some of the highly desirable results secured through the use of sulphur are that it improves alkali soils, promotes nitrification and transforms latent phosphates and potash into available plant food.—*Better Fruit.*

Revise Plant Names.—There are many species of plants known to the florists and nurserymen that are going under several different names, which fact calls for a revision of our nomenclature.—*The Southern Florist.*

Our Apples' Prestige.—The regard which is now being paid to grading and packing of apples in Canada (also inspection on this side) is undoubtedly doing much to advance the prestige of the Canadian output in competition with that of Oregon and Washington.—*The Fruit-Grower (London).*

The Ben Davis.—Clinging to his faith in the Ben Davis apple, Louis Erb, one of the largest growers in the Ozark district of Missouri, says that notwithstanding the opinion of an unthinking public this apple is just as it used to be. He opines that the Ben Davis has been decried by all sorts of people who don't know a good apple when they see it or taste it, and that it will hold its own with other varieties in the future.—*Better Fruit.*

A New Dried Fruit.—The dried persimmon is the newest dried fruit to be packed commercially in California. After experiments lasting three years, a process for drying persimmons has been perfected, and they will be put on the market for the first time this year. This fruit is dried without additional sugar and, when thoroughly processed, is said to have the combined flavor of the date and the fig.—*Better Fruit.*

Gassing Apples.—H. F. Davidson, of Hood River, Ore., an extensive grower and

Cuthbert Raspberries

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

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

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PORT BURWELL, ONTARIO

GLADIOLI

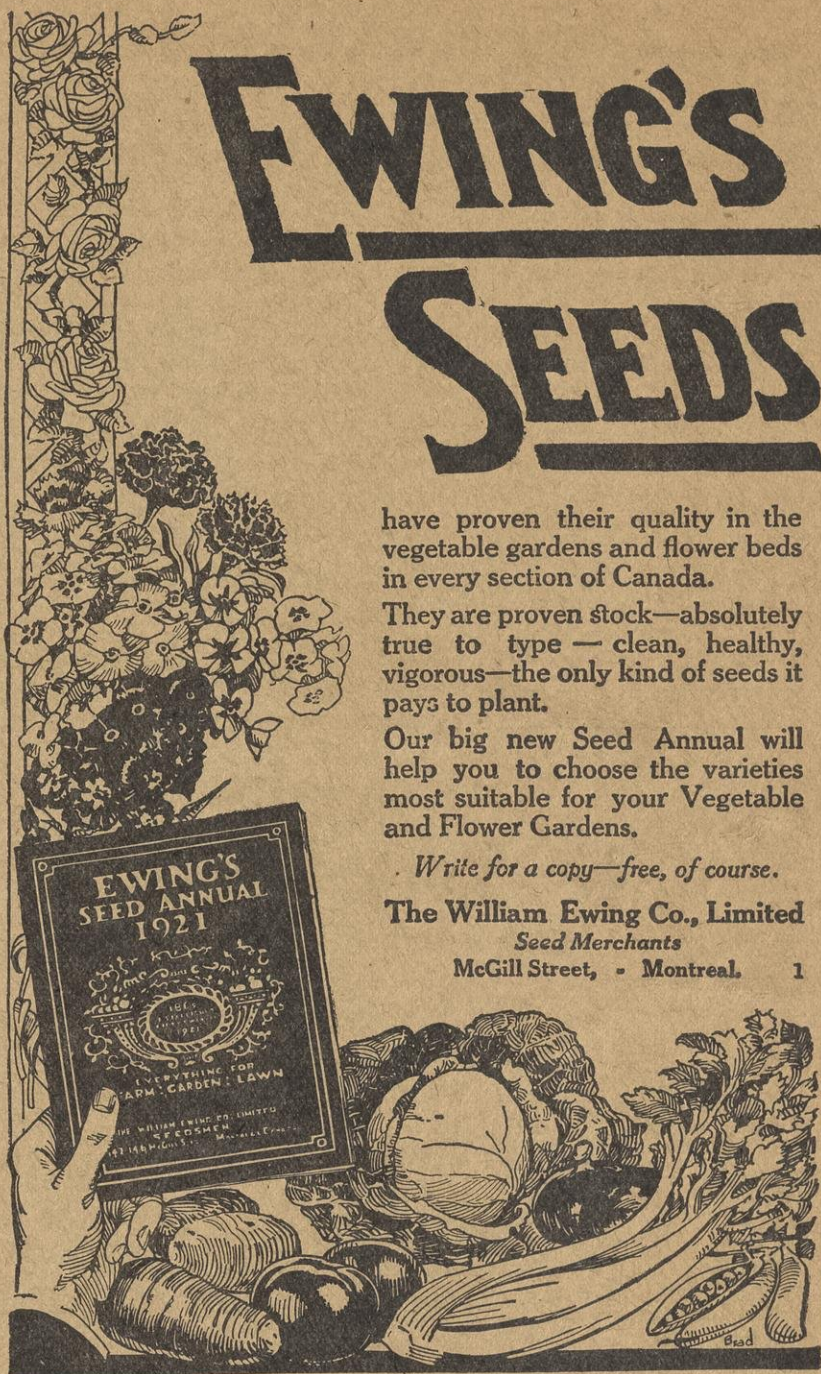
We offer Groff's named Gladioli, including Peace, War, Dawn, Blue Jay, Lavandula, Anzac, Peachblow, and others of the newer varieties.

We also offer a few of the best European novelties. We are also large growers of Paeonies in the best varieties.

Write for descriptive price list.

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EWING'S SEEDS

have proven their quality in the vegetable gardens and flower beds in every section of Canada.

They are proven stock—absolutely true to type—clean, healthy, vigorous—the only kind of seeds it pays to plant.

Our big new Seed Annual will help you to choose the varieties most suitable for your Vegetable and Flower Gardens.

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For 1921

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CULTIVATE YOUR ORCHARD BETTER

You know that thorough cultivation of your orchard means healthier trees, better fruit, larger yields and greater profits. The O. K. CHAMPION TILLER is in four independent sections. It operates right up to the tree trunk yet the driver, team or tractor need not touch a bough. For descriptive folder write

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Peerless Wire For Your Grape Trellises

is lasting and strong because it is protected with an extra heavy coating of galvanize.

Wire that rusts causes the grape twine to cut, which results in heavy loss to the crop. PEERLESS Wire will not rust. It is sold fully guaranteed, and will last for many years.

Put up in coils of about 140 lbs. each.

The popular sizes are:—

No. 12 gauge, which runs about 33 feet to the pound.

No. 9 gauge, which runs about 17 feet to the pound.

You can save money if you buy No. 12 gauge PEERLESS wire because you get more wire for your money. It is as heavily galvanized as our No. 9, and we guarantee it to withstand the weight of the heaviest crop.

There is a PEERLESS Dealer near you—write us for his name and prices.

THE BANWELL-HOXIE WIRE FENCE CO., LIMITED
WINNIPEG, MAN. - - - - - HAMILTON, ONT.

handler of northwest apples, calls attention to the fact that one of the most serious things confronting the sales of Pacific Coast apples is that cars which are being used in connection with a heater service have a style of heater that is generating a gas that gives the apples an unpleasant flavor. He says that many consumers of northwest apples are complaining of the apples being flavored with coal oil smoke and are discriminating against them in favor of eastern fruit.—*Better Fruit.*

The Sundial—A sundial adds a mingled note of luxury, artistic effect, and old-world charm to the most common-place garden. Sundials are very expensive to erect if you want a proper stone pillar, but if you can pick up an old dial anywhere a camouflage pillar is easily erected. An old tree trunk cast over with cement, or a wooden pillar erected and filled with sand and cemented over will serve instead of a stone column—until such luxuries are within our reach again. A little ivy coaxed to grow about the pillar will do much towards making it look a "genuine antique." — *Gardening Illustrated* (London).

New Flora on Battlefields—As a result of the deep trench digging and the blasting out of shell holes by high explosives during the war in Europe, northern France has produced some interesting floral results. Strange plants and flowers unlike anything heretofore known are growing on the battlefield. It is believed that this is a result of bringing into action of the sunshine and air seeds which have remained deeply in the soil for many years.—*The Canadian Florist.*

Cannery Conducts Fruit School—A novel way in which the Rupert (Ore.) Canning Co. encourages and co-operates with fruit growers who do business with this company is to have them meet at the plant of the company located at Newberg once each year and have a "berry and small fruit-growing school." The school lasts several days. . . . The company turns a portion of the cannery into a large social hall and cafeteria, and the farmers are the company's guests while attending the school.—*Better Fruit.*

The Fertilizer Number

Editor, THE CANADIAN HORTICULTURIST,—Your last Fertilizer Number was a good one. It seems to me that it is the duty of the farm press to investigate the merits of any product being offered in a large way to the farmers, including fruit and vegetable growers. If their analysis convinces them that the product will directly benefit the farmer and make him money it seems to me it is then the duty of the press to get behind that product and push it along. I do not mean any proprietary article or any particular "brand" of goods, but the merits of the goods as a class should be put before the farmer.

Thousands of farmers might have made hundreds of thousands of dollars over a period of the last ten years by the judicious and intelligent use of fertilizer. These thousands of farmers might have been induced to use this fertilizer had the press 10 years ago taken the trouble to study the fertilizer question and, with the results of their investigation in hand, gone out to the farmer and advocated the use of fertilizers.

I am very glad to see the attitude that THE CANADIAN HORTICULTURIST has taken in the matter of informing the fruit growers and other horticulturists of this country on the value and use of fertilizers.—D. W. Gunn, President, Canadian Fertilizer Association, Toronto.

THE HORTICULTURAL WORLD

Experimental work in Oregon in 1919 indicates that a combination of disinfectant, composed of cyanide of mercury and bi-chloride of mercury, in the proportion of one gram each in 500 cc of water, is effective for destroying pear blight bacteria both on the wounds of trees and on the metal tools used in eradication work. When used alone these disinfectants are effective on wounds only or on tools only respectively.

The gipsy and brown tail moths found 1919 an exceptionally favorable year for spreading throughout the New England States. Action by the U.S. Department of Agriculture contemplates restrictions upon the movement of various articles from the affected states to other parts of the country, including such horticultural material as coniferous trees; decorative plants, such as holly and laurel; field-florists' stock, trees, shrubs, vines, cuttings, and other plants and plant products, except fruit pits, seeds of fruit, and ornamental trees and

The Fruit & Produce Market

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

H. J. ASH

44-46 Church St. - Toronto, Ont

CONSIGNMENTS OF FRUIT AND
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Shipping Stamps furnished on request.

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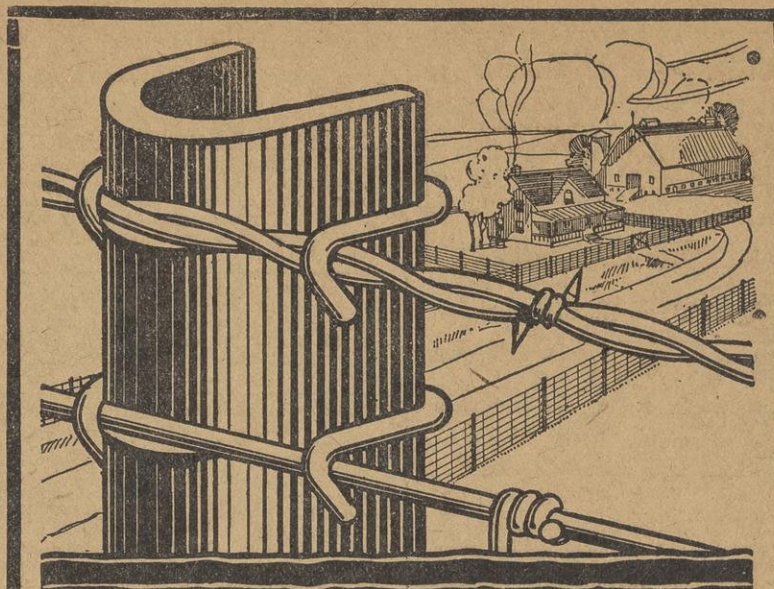
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Every farmer needs strong, dependable, reliable, sturdy, permanent fences. Fences that will stand any farm strain. Fences that do not need repairs and will last a lifetime. Such fences can be built by using

BURLINGTON STEEL FENCE POSTS

Made of high carbon steel, rust resisting, extra heavy and coated with rust-proof paint, they will not bend, break nor burn.

They can be driven into the ground in less than a minute. They will not heave. There are no holes in the post to weaken it. The wire is fastened to the posts with clips. Thousands of these posts are giving satisfactory service. For sale by hardware, fence and implement dealers or direct from the factory. Immediate shipment.

Write for our book. Its free.

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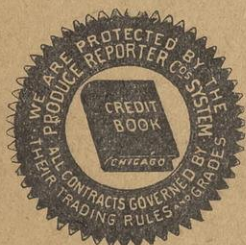
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Alpine and perennials, unique collection; many new varieties unobtainable from any other source. Hardy and adapted for Canadian climate. **HARDY PLANT FARM, ENFIELD, ENGLAND**

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BROWN BROTHERS CO.
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We Get Best Prices

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

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FOR SALE and WANT ADS

Advertisements in this department inserted at the rate of 5 cents per word. Each word, initial or group of figures counts as one word. Minimum 50 cents cash, strictly in advance.

BEES AND BEE SUPPLIES

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

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

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

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GOLDEN QUEENS—Hardy, prolific, each \$2.00. Select tested \$4.00. Orders booked now. F. L. Barber, Lowville, N.Y.

WANTED—Bees, full colonies only. A. F. Hodgson, Jarvis, Ontario.

IT IS GOOD BUSINESS TO USE JUMBO HIVES—We have them as well as standard sizes. Price list FREE. The Ontario Beekeepers' Supply House, Guelph, Ontario.

FOR SALE—Apiary located about 40 miles west of Toronto, consisting of 85 colonies of Italian bees in 10 frame Langstroth hives, with full equipment. For particulars write to Box 24, The Canadian Horticulturist and Beekeeper, Peterboro, Ontario.

FOR SALE—About 200 hives, number of supers with drawn comb, 1 capping can, 1 eight-frame reversible extractor, and other equipment. For particulars, write owner, Guy Clendenning, Lansdowne, Ontario.

HIVES, HIVE MARKERS AND SCALES—Write for large catalogue of bee supplies and books. Morgan's Limited, London, Ontario.

SECTION SUPERS, Slat Separators and Section Holders, Carriers of Honey Cases. Write for information. Garfield Stewart, Glasgow Station, Ont.

BEESWAX AND HONEY

WANTED—Highest cash price paid for No. 1 Beeswax. Send to Hector Inch, Port Hope, Ontario.

CANARIES AND POULTRY

HEN CANARIES, Breeding Cages, Books, etc. Write for catalogue. The largest reliable Bird Supply House in Canada. Morgan's Limited, London, Ont.

MISCELLANEOUS

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

FOX FARMING—Select stock for sale. Correspondence solicited. Literature free. Blake Vannatter, Georgetown, Ontario.

SITUATION WANTED—As manager of a large fruit farm in Niagara District. O. A. C. graduate, with years of practical experience. Details and references by letter or appointment. Address, Box A, Canadian Horticulturist, Peterboro.

REAL ESTATE

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

SEEDS, BULBS, PLANTS, SHRUBS

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

YOUR ADDRESS FOR HOLLAND GROWN Hyacinths, Tulips, Narcissus, Crocus, Gladiolus, Iris, Paeonies, and all miscellaneous bulbs and roots. Please write for catalogue to Vendel & Van Ginhoven, 116 Broad St., New York, N.Y.

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BULBS—Choice Gladioli in mixture, including Baron Hulet, Niagara, Panama, Minnesota, Princes, Peace, Electra, etc. Dozen 50 cents, hundred \$4.00. Prepaid to Canadian points. N. M. Davison, Unionville, Ont.

GLADIOLI—Prince of Wales, Red Emperor, White Giant, Schwaben, Loveliness, Roem van Kennemerland, Conspicuous. Prices later. In the meantime, look them up in the catalogues. J. B. Kennedy, R.R. No. 1, Stratford, Ont.

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Remarkable Discovery That Cuts Down the Cost of Paint Seventy-Five Per Cent.

A Free Trial Package is Mailed to Everyone Who Writes.

A. L. Rice, a prominent manufacturer of Adams, N.Y., discovered a process of making a new kind of paint without the use of oil. He named it Powderpaint. It comes in the form of a dry powder, and all that is required is cold water to make a paint weather proof, fire proof, sanitary and durable for outside or inside painting. It is the cement principle applied to paint. It adheres to any surface, wood, stone or brick, spreads and looks like oil paint, and costs about one-fourth as much.

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



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Hanging Baskets and Fern Pans

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

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

Place your Spring Order NOW.

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

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Main Street West.

shrubs, field vegetables, flower seeds, bedding plants, and other herbaceous plants and roots.

MONUMENT TO THE ROME BEAUTY.



A fitting monument, dedicated in Ohio last summer to the Rome Beauty Apple, which was originated in that State. Rome Beauty apple trees, which originated in Southern Ohio, are moderate growers, round headed, and, although blooming late, are early bearers and very productive. The fruit, which is large, roundish, very slightly cal, mostly covered with bright red on pale yellow ground, is tender, juicy and of good quality. Rome Beauty is grown to a limited extent in Canada, being especially prevalent in Durham County, Ont.

MONUMENTS TO APPLES.

There have been at least five monuments erected in the United States, and one in Canada to different varieties of apples and their originators. In the States there are monuments to the Baldwin, Primate, Wealthy, Spy, and Rome Beauty. In Canada there is the monument to McIntosh Red, erected in 1912 at Dundela, Dundas County, Ontario, in honor of that apple and of its originator, John McIntosh.

In our selfishness we often overlook the fact that there are benefactors in the plant kingdom. It was therefore a fitting monument that the fruit growers of Ohio, at their summer meeting held in Lawrence County, in 1919, dedicated to the Rome Beauty apple. Within a short-distance of the place where Alanson Gillette, in 1877, planted the original Rome Beauty tree, near Proctorville, Ohio, on a large granite boulder was permanently attached a bronze tablet containing the following inscription:

Attractive and Reliable. Foremost Gift of Ohio to the Apple Industry. The Rome Beauty Has Borne Fame to the State and To Her Fruit Growers. The Original Tree was Planted in 1817 by Alanson Gillette near Proctorville. H. N. Gillette, Cornelius Turley and Nelson Cox, Pioneer Lawrence County Fruit Growers, were active in its early Dissemination. An appreciation by the Ohio State Horticultural Society, 1919.

The dedicatory address was delivered by Col. E. S. Wilson, who personally knew Alanson Gillette, and his address recalled many happy memories of him, and of the other faithful men who had assisted in introducing the Rome Beauty apple. Such memorials as these might be erected in every locality where some excellent variety of fruit has been originated.

Our
Bargain



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ABSOLUTELY GUARANTEES TO SUPPLY

J-C SPRAY CHEMICALS

According to the most up-to-date formulas of the Experimental Stations---And further, the contents *inside* the package will in every respect line up to the
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LEAD ARSENATE

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(As used on Apples and Potatoes in N.S.)

COPPER SULPHATE

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Much actual experience in practical spraying and dusting by our experts, puts us in a position to know the requirements from a grower's point of view. We shall be glad to advise you on any doubtful point. Write Us.

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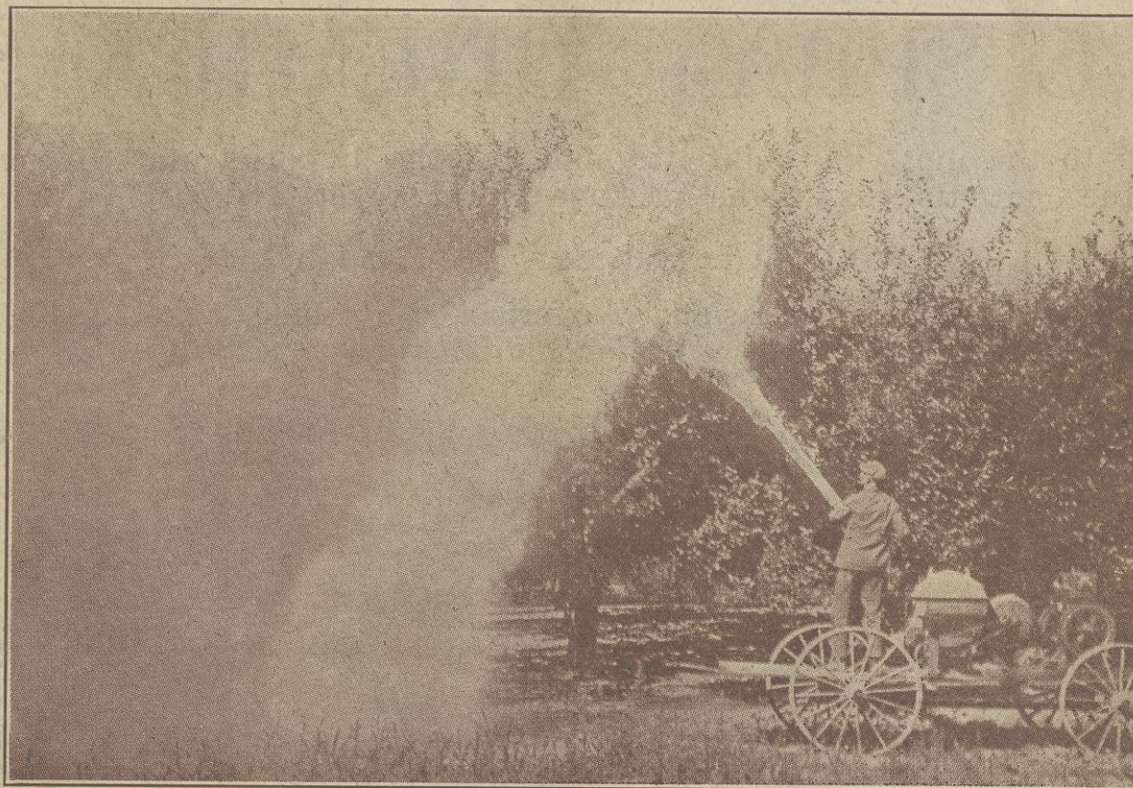
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Improves the quality. Increases the crop. Reduces the labor.
Makes fruit growing easy and profitable.



DUSTING 40 acres a day.

DUST—*Your Apples, Pears, Plums, Peaches, Cherries, Strawberries, Potatoes, Tomatoes and Vegetables*

WITH A DUSTER YOU CAN DO THE WORK WHEN IT SHOULD BE DONE

DUSTING has made tremendous strides during the past year. The results have been wonderful. No commercial orchardist can any longer put off Dusting. It has made possible successful and economic fruit growing and potato growing. Let us send you free all the latest information on Dusting,—Books, catalogues, bulletins, calendars. We want you to know all about it.

For Liquid Spray---SOLUBLE SULPHUR

This perfected Sulphur Spray, in powdered form is now almost exclusively used to control San Jose Scale, Curl Leaf and Oyster Shell, Blister Mite, Aphis and Psylla Eggs, etc.

For growers who still apply liquid for Summer Spray—Soluble Sulphur, combined with Calcium Arsenate, gives best results. The most economical, most efficient, liquid spray.

Everything for DUSTING or SPRAYING—Dusting Machines (Hand or Power)—Dusting Materials—Spraying Machines (Hand or Power)—Arsenate of Lead—Calcium Arsenate—Soluble Sulphur—Lime Sulphur—Raw Sulphur—Bordeaux—Spray Guns—High Pressure Hose—Engines—Accessories.

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