



LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

The Canadian horticulturist & beekeeper. Vol. 28, No. 7 July 1920

Peterboro, Ont.: Horticultural Publishing Company, July 1920

<https://digital.library.wisc.edu/1711.dl/A74NAVHSJFVKS8M>

<http://rightsstatements.org/vocab/NKC/1.0/>

For information on re-use see:

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

THE BEEKEEPER

LIBRARY
COLLEGE OF AGRICULTURE
UNIVERSITY OF WISCONSIN
MADISON

Vol. 28, No. 7, July, 1920
\$1.00 Per Year

TORONTO, ONT.
Address all Correspondence to Office at
PETERBORO, ONT.

The Cutler Fruit Grader Models for Box, Basket or Barrel Packing

Apples, Peaches or Pears



Side View of Two Grade Model for Box Packing

THE CUTLER FRUIT GRADER. After seven years of manufacture and use in the hands of leading fruit growers and associations stands pre-eminent as THE MOST SUCCESSFUL and PRACTICAL FRUIT GRADER on the market to-day. With the improvements we have made our 1920 models are the most efficient and satisfactory machines we have ever manufactured and will meet the demands of all growers who want to handle their crops at the least expenditure of time and money.

WITH A CUTLER GRADER you can handle your crop quicker at the least cost of sorting, packing and handling, and you do not have to depend on skilled packers. A CUTLER GRADER will soon pay for itself in the saving made in the handling of the crop.

Fill out the Coupon below and mail it NOW

CUTLER MANUFACTURING CO.
353 East Tenth St., Portland, Oregon.

Please send descriptive circulars and prices of the equipment as indicated below.
Check the equipment you are interested in.

Graders

Box Presses

Gas Trucks

Bears

Crop expected in 1920

Name

Address

BOX PRESSES

See the CUTLER PRESS before buying. We have the best press on the market to-day.

Write to-day for catalog and prices.

Cutler Manufacturing Co.

353 East Tenth Street, Portland, Oregon

FIRSTBROOK BROS. LIMITED



Boxes and Shooks

Since 1867

Fruit Boxes

TORONTO

CANADA

Good Prices and Prompt Service

are two essentials in the success of a commission merchant. We have developed these factors to a high degree and are confident that with our extensive and efficient organization, we can handle your fruit and vegetable very satisfactorily indeed.

This month we ask for consignments in any quantity of
early tomatoes, raspberries,
chanceberries, black currants.

Send for your shipping stamps
now. If you don't know us, just
ask your banker, he can tell you.

White & Company, Limited

Front and Church Streets

Toronto

Commission Merchants

Ontario

The Canadian Horticulturist

CONTENTS FOR JULY.

Fruit and Apicultural Editions Only.

	Page
In the Niagara District in June	The Editor 187
Sweet Cherries	Geo. A. Robertson 189
Chats on Cherries	190
Insects in Cherry Orchards	Prof. L. Caesar 191
The Latest on Grapes	192
Orchards at Macdonald College...	Prof. T. G. Bunting 193
Summer Pruning of Apples	M. B. Davis 194

Fruit Edition Only.

Ontario Nursery Control Bill	199
------------------------------------	-----

Fruit and Floral Editions Only.

Cherry and Other Preserving	P. E. Culverhouse 195
Conservation of Bird Life	Wm. M. Morrill 197
Editorials	198

Floral Edition Only.

Native Flowers for Wild Garden	F. E. Buck 187
Watering, Cultivating and Mulching....	H. J. Moore 189
Perennials on Clay Soil	Anna Moyle 189
An Amateur's Greenhouse	W. H. Young 191
Insect Control in Vegetable Gardens	193
Society Notes	199
Flowers at Exhibitions	200

Apicultural Edition Only.

A New Power Extractor	Wm. A. Weir 195
Winter Stores	W. W. Webster and E. McAvoy 196
Harvesting Extracted Honey	J. T. Wilson 198
Editor's Desk	199
Doings in Beedom	199
Notes and Comments	J. L. Byers 200

All Editions.

Birds in Fruit Orchards	201
Soil Fertility Conference	204
Maritime Province Notes	205
Niagara District Notes	207
Crops and Markets	210

ADVERTISERS' GUARANTEE

"We believe every advertiser in this issue is reliable. Questionable advertisements are excluded from our columns. Should any advertiser herein, in Canada or the United States, deal dishonestly with any paid-in-advance subscriber, we will make good the amount of loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state, 'I saw your advertisement in The Canadian Horticulturist.' We shall not attempt to adjust trifling disputes, nor pay the debts of honest bankrupts."

Communications should be addressed

THE CANADIAN HORTICULTURIST,
Peterboro, Ontario.

INDEX TO ADVERTISEMENTS

Bee and Supplies	201,	Fruit Pickers	186
202, 203, 204, 205.		Ginseng	185
Classified Department ..	212	Irrigation	204
Commission Firms	ii.,	Ladders	206
203, 205, 206, 208, iii.		Nursery Stock	212, 208
Cooperage Stock ..ii., 185,	212	Overalls	209
Ear Drums	207	Seeds and Plants	185,
Education	210	207, 208, 212, iv.	
Exhibitions	204, 209	Sorting Tables	ii., 186
Fencing	211	Sprayers and Spraying	
Financial	211	Materials	210
Flower Pots	212	Stoves	206

GINSENG



Showing Ginseng Roots one to five years old.

Ginseng is the only cultivated crop we know that will produce \$40,000 to the acre. Let us show you that we are not over-estimating the value of one acre of dried Ginseng roots grown from "Conklin's Stratified Ginseng Seed."

100,000 four-year-old roots, weighing one ounce each, at 75c per root, or \$12.00 per lb., equals \$75,000. Figured at \$8.00 per lb. equals \$50,000.

Order now for October delivery.

Prices:		
10,000	stratified seeds	\$ 55.00
20,000	" "	105.00
50,000	" "	250.00
2,000	one-year-old roots	\$ 60.00
5,000	" "	140.00
10,000	" "	250.00
50,000	" "	1,000.00

Our leaflet, "Method of Cultivation," free to customers and 10c to others.

CONKLIN GINSENG NURSERY PLANTATION

NORWOOD

Dept. H

ONTARIO

SPRAY YOUR GARDEN

Now is the time when destructive bugs, worms and leaf blight begin to infest your fruit, vegetables and flowers. It will pay you to use a dependable hand sprayer and rid the garden of them before its attractiveness is completely destroyed.



Brown's Auto Spray No. 1, with stopcock "A" as in cut. This is the most satisfactory compressed air spray pump on the market. It consists of a 4-gallon reservoir made of material either brass or galvanized steel as ordered. One of these should be on every farm. Very handy for spraying potatoes, berry bushes, vegetables, hen houses, stables and animals.

Price, galvanized steel tank, \$9.00
brass, \$11.00

Deluge Sprayer. A cheap sprayer very convenient for spraying small poultry houses, etc.

Price, 50c



GEO. KEITH & SONS

124 King St. East TORONTO

THE GIFFORD FRUIT SIZER

For
Peaches, Pears, Apples

Simple, strong, only 200 lbs. weight, suitable for orchard or packing house. Impossible to bruise fruit, it does not drop; gives cheek measurement on every apple. Guaranteed to size fruit to your satisfaction. Sizes, grades, and packs at one operation; over 200 in use in Canada now.

You will need a sizer this year and can save \$25 by purchasing now. Send for illustrated booklet and prices on Sizers and Gifford Spray Guns. Agents wanted.

R. J. LOWREY

Canadian Distributors,

ST. DAVIDS - BOX 245 - ONT.

The Master FRUIT PICKER

"That's Made Good"



So simple, children can use it.

United States fully represented.

WANTED

ONE good, live, reliable, distributor for Eastern Canada.

THE MASTER CO.

DES PLAINES ILLINOIS, U.S.A.



"DAISY" Apple Sorting Table

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

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

"Daisy" Apple Press

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

Fruit growers' supplies carried---Ladders, Felt Pads, Racks, etc. Write for prices. Special quotations to Associations.



J. J. ROBLIN & SON

Brighton - - - Ontario

Barchard & Co.

Limited

Pioneer Box Factory

Fruit Boxes

Made Up

or

In Shooks

135 Duke Street

Toronto

Ontario

The Canadian Horticulturist and Beekeeper

(See Pages 195-200)

(See Pages 195-200)

Vol. 29

TORONTO, JULY, 1920

No. 7

In the Niagara District in June

By the Editor

THE predominant attitude of fruit growers in the Niagara district about the middle of June was "watchful waiting." The bloom on all kinds of fruit had been heavy; the fruits were setting; the weather was hot and dry; the spray pump and the cultivator were on the job, and the growers were anticipating good crops in most fruits—if rain would come to their aid. Cannerymen and other buyers were sizing up the situation, and the growers were refusing to make contracts. Such was the condition of crops and affairs that I found on a little trip last month around the lake from Clarkson's to St. Catharines. The growers were busy in the orchards, and the prospects for most kinds of fruits were good in most sections. In spite of winter-killing of grapes and of damage by early frosts to small fruits, a spirit of optimism prevailed throughout the entire district—if rain would come. Every man was watchfully waiting for rain. Reports received by *The Canadian Horticulturist* since the date of this trip state that rain did come in time to mean thousands of dollars to the growers, especially on the Burlington side of the lake, where the preceding dry weather had been causing most anxiety.

At Burlington and Aldershot.

At Burlington, I found W. F. W. Fisher and his son, Paul, wielding paint brushes at a two-minute clip on the window frames of their beautiful old home. But Mr. Fisher is never too busy to give a visitor a ten-minute talk. His strawberry fields were suffering for want of rain, he said, and his raspberries had been badly winter killed. In strawberries, Mr. Fisher grows mostly Gibson, Parson's Beauty and Glen Mary. Tree fruits were healthy and in full bloom, with cherries quite light. Knowing that Mr. Fisher, some years ago, was partial to dwarf pear trees, I asked him what he thought of them now. He said that

they had not proven satisfactory, being poor bearers.

A. W. Peart was busy directing the preparation of material for the building of a new barn to replace the one that he lost by burning so unfortunately last fall. In Mr. Peart's orchards the apple prospects were good, with the exception of Spy, which was light. In cherries, Early Richmond and Morello were heavy; Montmorency showed half a crop. Plums were heavy. Bartlett pears were a failure, and Kieffer and Anjou fair. Black currants were light; red currants, good; raspberries, fair; gooseberries, fair.

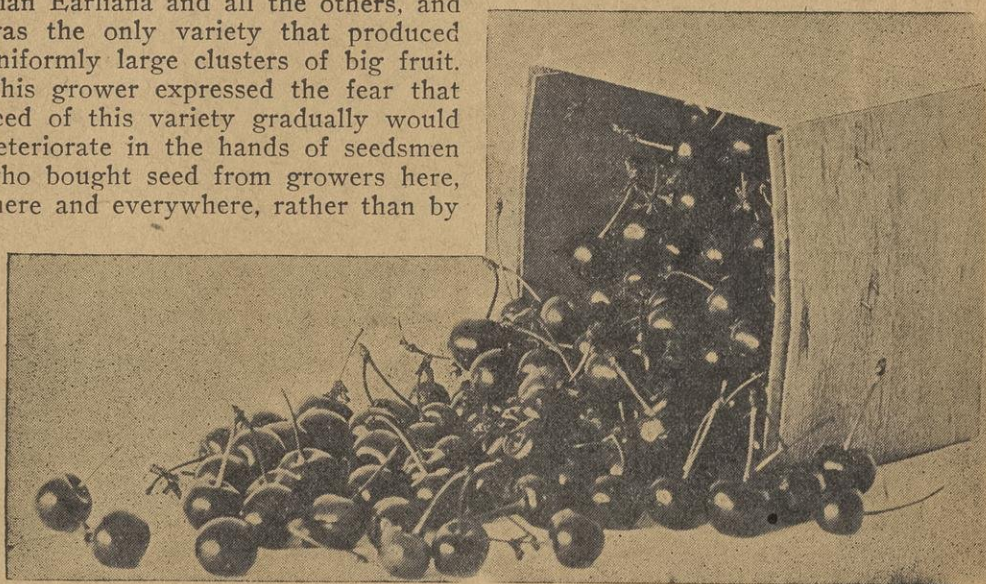
Russell Peart showed me a patch of John Baer tomato that was about the best that I have seen anywhere this year. This variety is coming rapidly into prominence, being medium early, large, round, a good cropper, and not subject to rot. A prominent market gardener at Winona, who did not want his name mentioned, thought that this was the coming tomato. It was better than Earliana and all the others, and was the only variety that produced uniformly large clusters of big fruit. This grower expressed the fear that seed of this variety gradually would deteriorate in the hands of seedsmen who bought seed from growers here, there and everywhere, rather than by

selective methods on special seed plots.

At Aldershot, Godwin Brothers reported only a quarter crop of strawberries and almost a failure in raspberries, the latter having been badly frozen. Their cherries blossomed heavily, but were not setting well. Another grower in this district thought that the reports in the press from cannerymen to the effect that there was a big crop of fruit, which, coupled with the scarcity of sugar, would tend to keep prices down, were false. He said that a well-known local buyer had told him that most kinds of fruits were going to be a high price, and that fruit generally would be scarce.

Stoney Creek and Fruitland.

The well-known peach grower of Stoney Creek, Oliver M. Nash, in speaking of the summer care of peach orchards, said that he plows twice one year and once the next. He believes in manuring little and often. He does not use cover crops other than the



Early Richmond cherries, one of the leading varieties of the sour type, but not planted so extensively as the Montmorency. The culture of sour cherries is common in all the fruit growing provinces. Only in British Columbia and in the Niagara District of Ontario are sweet cherries grown extensively. The sweet type is more particular in respect to soil and cultural methods than the sour cherry. Where conditions permit, the outlook for the culture of all kinds of cherries is bright.

plowing down of the chickweed that grows in the orchard.

That too many varieties of peaches and of other fruits were being grown in the Niagara district was the opinion of John Clough, fruit buyer and dealer, Stoney Creek. Too many



Blossom time in the cherry orchards of the Niagara District this year was beautiful beyond description. The trees were completely covered with bloom and were worth going a long way to see.

varieties of any one kind of fruit were not satisfactory for selling. The shipper could not guarantee uniformity in consignments. The growers, he thought, should produce only one or two varieties for the period of ripening concerned. He thought that the Yellow St. John was the best peach grown. It was the only peach that he quoted by name to his customers. All others were grouped, such as "Yellow No. 1," etc. The growers knew this, and attempted to take advantage of it by sending in various varieties under the name "St. John."

That fruit growers should be registered and numbered, as is done with automobiles, was contended by Mr. Clough. He thought that every package of fruit that came to a shipping platform or to a station for shipment should bear a number that would indicate the name and address of the grower. This would facilitate sales for all concerned.

A standard shape and size of basket was a need of the grape industry, according to Lt.-Col. H. P. Van Wagner, Stoney Creek. For a generation the baskets used had been continually changing in these particulars. "By this time," said Col. Van Wagner, "we should have decided upon a basket that is suitable. Our grape baskets should be standardized with the bas-

kets used by the grape men across the line."

Carpenter Bros., of Fruitland, had just finished spraying their apple orchards, and were busy plowing peach and cherry ground with a tractor, to which was attached the regular two-furrow plow, and behind that a two-gang plow to permit close work being done under low-headed trees. G. Homer Carpenter did not favor heading trees too low, as in that shape the branches were too easily broken, especially cherry and peach, and were too difficult for satisfactory cultivation.

H. D. Glover, of Fruitland, thought that black currants were "going back." All varieties showed a very light crop, due largely to the effects of "pine rust." His raspberries had been frozen, and the prospects were not very bright. His red and white currants were looking well. Mr. Glover thought that the demand for white currants was increasing. "On a market like Hamilton," he said, "where the grower can get direct to the consumer, they will bring 75 cents a 24-quart crate more than for red currants."

Winona and Grimsby.

The veteran peach grower of Winona, J. Wesley Smith, said that his peaches were doing well in spite of the damaging effects of the winter of 1917-18, and that crop prospects were good. The four main varieties grown by Mr. Smith are St. John, Early Crawford, Elberta and Lemon Free. Mr. Smith advised thinning on the trees where the set was heavy.

In a short talk with F. G. H. Pattison, our special correspondent in the Niagara district, he confirmed my opinion, formed from the appearance of plantations throughout the entire district, that the cabbage and tomato men were in serious trouble this year with the root maggot and the cut worm on these crops respectively. Mr. Pattison said that these insects were doing great damage from Niagara Falls to Toronto. On asking Mr. Pattison what he thought was the most important question of the time in the Niagara district, he answered, "The fertilizer problem." He thought that the fertilizer need was becoming greater and more serious each year.

That the fumigation of nursery stock should be stopped until such stock becomes more plentiful and conditions again become normal was the opinion of J. E. Henry, Winona. Mr. Henry claimed that fumigation killed a large percentage of the trees that went through the process. He said that only 40 per cent. of fumigated

peach trees would grow, while of unfumigated trees, 90 per cent. at least should live. The situation was worse in the case of sweet cherries.

Lt.-Col. H. L. Roberts, Grimsby, the well-known authority on pears, thought that the Seckel was not appreciated by consumers in Canada as it should be. It was one of the best known pears in the United States, and brought big prices over there. In regard to his own pear crop this season, the colonel said that it was erratic, although a fairly large crop was expected. Flemish Beauty was overcropped; Bartlett, good; Anjou and Duchess, full; Anjou dwarf, erratic; Seckel, heavy.

In conversation by phone with Hamilton Fleming, Grimsby, I learned that Professors Caesar and Howitt, of the O.A.C., Guelph, were making, that day, one of their frequent visits to the district. Mr. Fleming said: "A grower can learn more during a couple of hours' talk with Professor Caesar, on his own place, than he could learn from all the bulletins that Professor Caesar or any other man could write in two years, sitting in an office at Guelph. If we had a score of Caesars constantly going through the district from grower to grower, the fruit industry would be better off and the growers would have many of their problems solved."

At Jordan Station.

On arriving at Jordan Station, I learned that Prof. J. W. Crow, of the O.A.C., also was paying a visit to the district. I called on P. H. Wismer, and found what I had been told by many growers to look for—the "prize" orchard of the Niagara district. Although never in a competition at any time, it is no exaggeration to say that Mr. Wismer's orchards, including his strawberry and small fruit plantations, likely would carry off the sweepstakes if such a competition were held. Mr. Wismer's place is worth travelling a long way to see. The trees and bushes show perfection in health, the soil is clean to the last inch, and the general appearance is attractive beyond description.

Mr. Wismer's strawberry patches were especially fine. Even patches that are being picked this year for the third time are highly productive and free of weeds. Mr. Wismer renews his strawberry plantations by plowing off the old plants from one side of the row, leaving the new plants on the other side. A three-year-old patch has the plants growing in the spaces that were between the rows when the plants were one year old.—A. B. C.

Sweet Cherries, the Sweetest of Fruits

Geo. A. Robertson, St. Catharines, Ont.

Of all the tree fruits grown in the fruit belts of Ontario, the sweet cherry is the most difficult from which to get anything like satisfactory results. As this fruit is grown more extensively in the Niagara district than elsewhere in the province, I shall confine my remarks mostly to its culture here.

The sweet cherry is very particular in respect to the soil on which it grows. It must have a soil that is dry at all times, one that never gets waterlogged. Even if we have what we think is a naturally dry piece of soil, it usually is advisable to underdrain it in order to make sure that no water will fill the soil to the exclusion of air at any time. The soil should be fairly deep. Sandy loam is preferred, with a well-drained clay subsoil if possible.

Sweet Cherry Varieties.

Of the varieties we have for commercial growing, there are not too many good ones. From my present knowledge, Black Tartarian, Napoleon Bigarreau, or Royal Anne (white), Elkhorn, which might be replaced by Bing, and Windsor, in the order named, are sufficient.

Black Tartarian is the best known, being a "Heart" cherry. It is a little soft, and ripens with the rush of the strawberry season. It is a table cherry, and is too sweet to can as well as the later varieties. Napoleon is the most prolific of the whites, is firm and, if allowed to ripen properly and to color with the sun, looks second to none in bottles; it holds its firmness.

Elkhorn is not as prolific as the others, but, on this account, it sizes up and will usually give the largest cherries, black and very firm. From the little acquaintance I have with Bing, I am of the opinion that Elkhorn will be replaced by Bing, as, still being a small tree, it has borne as well as any other variety the last three years, is firm, large, and of the best quality.

Windsor is named after the town of Windsor, and is, therefore, a "Made in Canada" cherry. So far, it has been the most prolific of all; it outgrows and outcrops the others, is of good size, and liver-colored when ripe; it cans well.

In this list are the varieties that I have found to pay me best. They are the most prolific, have the size, the color and the quality. The trees are vigorous in growth, and, with good

care, are fairly resistant to the ordinary diseases.

Of the other varieties that I grow, Lambert is a high quality cherry, later than Windsor. So far, it lacks in productiveness, but is much the same class as Bing. It will not pay to grow it.

Governor Wood, the first to ripen, is a small, soft heart cherry, white, and very prolific. It comes in before Early Richmond and with the strawberries. It is too small on account of its habit of overbearing. One should not grow too many in an orchard.

May Duke is a fair cherry, but they are inclined to blossom and have green and ripe cherries on at the same time, and the fruit grows close to the main stem in thick foliage, and therefore rots badly.

Black Eagle comes about the time of Napoleon, and is very sweet, but small, and a very shy bearer. If the weather is not entirely favorable, the fruit it sets drops before it is time to mature.

When I was in California on a trip I found that solid blocks of one variety of cherries were unprofitable, that the varieties were mixed, that orchards contained certain varieties to pollinize the standard varieties, and that bees are essential to ensure a crop.

Sweet cherry trees should be grown on the Mazzard root stock, which grows stronger than the Mahaleb, and makes a better union, although it is more difficult to get started. For the latter reason the nurseries use Mahaleb stock, which shortens the life of the tree, as often the size of the top is so much larger than the size of the root at the union that it will become diseased there and die about the time when it should come into bearing and be at its best.

Orchard Practise.

The land should be prepared in the fall, and the trees planted then and mounded with earth. Do not cut back. The distance for planting should not be closer than 30 feet.

The trees should be headed at from four to five feet from the ground, and allowed to spread from there. We prune very little for the first few years, or until the tree gets a good start, because we want a spreading growth of the bottom limbs. After these bottom limbs have a fairly good start, we lightly summer prune some of the centre limbs out. This does not force the tree into an upright woody growth. When the trees start fruiting we keep the centre open, so that sunlight and air will circulate through, for success



Sweet cherry trees in bloom in the orchards of Geo. A. Robertson, St. Catharines, Ont. When the trees approach the age of bearing, the tops are kept well pruned and open. This admits air and sunshine and aids in preventing the appearance of brown rot.

or failure in sweet cherry culture depends upon the control of the brown rot fungus. We do everything that will give air and sunlight, avoiding windbreaks, low-heading and close planting.

Spraying is done with the winter strength of lime-sulphur, one to seven, taking care to cover all sides of the tree. We prefer to spray just as the buds are bursting, when the three blossoms are showing in each bud and the white is visible. The next spraying is one gallon of concentrated lime-sulphur and three pounds of arsenate of lead paste, when the blossoms drop and the fruit commences to grow.

Keep syring once a week until about June 20, or until the cherries start to color. This prevents the stinging by curculios and attacks by the cherry fruit fly; if the cherries are not punctured, the fruit will more likely be clean and free from "worms," and not so subject to rot.

About the Robin.

No article on cherry-growing would be complete without mention of the robin. This bird eats cutworms and earthworms, provided they are to his

liking, until it is time for the fruit to color. He then goes on a fruit diet, and will clean out any sized orchard; if left unchecked, he will completely strip the early varieties, or spoil them so that, if the weather is bad, the brown rot fungus develops in what he has left of the cherry. My advice is to attend to the ground slugs with a crop of chickens, and to the robins with a small rifle.

Harvesting and Marketing.

The cherry business can be made or ruined by the methods employed for harvesting the crop. If allowed to ripen properly, and if the rot is kept in control, there is a market second to none. If one tries to keep ahead of the birds and the rot, and markets the fruit when it is only one-quarter in size and only starting to color, he had better grow sour cherries.

Under no consideration pick and ship cherries without the stems being left on. Do not bruise or handle carelessly, and put the cherries in neat, attractive packages, not too large; the smaller the package, the better cherries keep, as a rule.

Chats on Cherries

THE outlook for sweet cherries last month in the Niagara district was exceptionally good, but sour cherries were not so promising, being variable. Interviews on crop conditions and on cherry culture and marketing were secured from growers on both sides of the lake by the Editor of The Canadian Horticulturist. Most growers reported that early Richmond and Montmorency were light, no more than half a crop at best.

That sweet cherries might be more extensively grown was the opinion of P. H. Wismer, Jordan Station. This type of cherry does well in many parts of the district, and is a profitable crop when grown and marketed properly. According to Mr. Wismer, the leading varieties, such as Windsor, Tartarian and Oxheart, should be allowed to become fully grown and colored before being picked, but Governor Wood must be picked before fully ripe, as it is apt to be soft. Mr. Wismer grows a newer variety called "Pickering," that he claims is one of the best, as it is a heavy bearer and the fruit is solid with a tough skin. He picks his cherries carefully, with stems on, and sees that they go into the packages clean and sorted.

Speaking of sour cherries, Mr. Wismer said: "On a sour cherry tree,

for a good crop, there must be lots of limbs, and that means, other things being favorable, lots of cherries."

A Cherry Sorter.

For sorting and cleaning cherries and plums, Mr. Wismer uses a home-made sorter, made of laths split in two and placed on edge one quarter of an inch apart in a frame. When using, one end, in which there is a notch to admit the handle, is placed on the basket, and the other end is placed higher on a bench or box. The cherries are poured on this sorter, and then rolled into the basket; at the same time, the fruit is sorted out that is ill-shaped, green, rotten, bird picked, etc. As the cherries roll over the sorter, any dirt that is present, such as bits of leaves, etc., drops through the spaces between the laths to the ground.

"The demand for sweet cherries is good, but the crop must be handled carefully," said Lt.-Col. H. L. Roberts, Grimsby. "Men pickers are necessary with the fruit, as often long heavy ladders must be handled. I always instruct my pickers to avoid pulling off the fruit spurs. Unless pickers are careful in this respect, much injury may be done to the trees, and the crop the following year will unnecessarily be made lighter."

In Col. Roberts' orchards the sorting

of cherries is not practised other than that done by the pickers, who are instructed not to put into the baskets any fruit that is not in first-class shape. Col. Roberts was of the opinion, however, that the sorting and hand packing of cherries would pay anyone who catered to a fancy trade. He thought that many planters were not sufficiently particular about the type of soil on which they planted sweet cherry trees. His preference was for a deep, gravelly soil, well drained, as this type usually insures longer life to the trees. He thought also that cover crops were not used to the extent that they should be in cherry orchards or in orchards of any kind.

Sweet Cherries Profitable.

This matter of soil was referred to also by J. W. Smith, Winona, who mentioned a warm, deep soil as necessary. In the orchards of O. M. Nash, Stoney Creek, his best sweet cherries are grown on a high gravelly ridge. Mr. Smith thought that the outlook for sweet cherry culture was exceedingly good, as this type of cherry brings more money than the sour type, and is very profitable. J. E. Henry, Winona, also thought that sweet cherries might be grown more extensively with advantage to the district.

That the demand for cherries of all kinds was becoming greater year by year was the opinion of R. H. Dewar, Fruitland. "To satisfy this demand and to take advantage of the good prices that cherries are bringing these days," said Mr. Dewar, "every method should be employed that will help to produce high-class fruit. I manure my cherry land heavily, and fertilize also with bone-meal. I keep the spring-tooth harrow or the disc going all season until late in July, or until the cherries begin to color. A cherry orchard must be cultivated constantly, so that all moisture possible may be saved for the production of size in the fruit."

Strawberry Notes

Judging from the scarcity of strawberries and raspberries on the market the last few years, they should be good crops for interested growers to try.

The strawberry field should be sprayed repeatedly with fungicides and insecticides to prevent any development of plant disease or attack by insects.

Strawberry fields should be cultivated and hoed intensively from the time the plants are set until they begin to build up their fruit-bud system, which is late in the fall.

Insects and Diseases in Cherry Orchards

Prof. L. Caesar, Ontario Agricultural College, Guelph

I FEAR that what I shall write in this article will be too late to be of much service this year to cherry growers; nevertheless, I hope that it may give helpful suggestions for next year, and that growers will compare it with their own practice, and adopt any hints that appeal to them as an improvement on their present methods.

Our Main Cherry Pests.

The following is a list of the chief insects attacking cherries: Black aphids, which limit as a rule their attacks to sweet cherries; plum curculios, which do the so-called "stinging" of cherries, and cherry fruit flies, which are the chief cause of wormy cherries. Some orchards are quite free from cherry fruit flies, but in others it is a very destructive pest. Plum curculios are to be found in almost every cherry orchard, but are least abundant in well-cultivated orchards.

The chief diseases are: Black knot, a disease well known to almost everybody; leaf spot, a disease that in some years causes almost all the foliage to drop early, sometimes as early as the middle of July; and brown rot, which is specially destructive to most varieties of sweet cherries.

Leaf Spot Disease

Of all the diseases of cherries I should place leaf spot as the most important, because it causes the leaves to fall early, and this premature dropping of leaves is in a great many cases followed by winter killing. Many thousands of trees have been killed this way during the last five or six years.

Black knot also may kill trees, but is seldom destructive where pruning and even moderate spraying is done. The leaf spot is specially favored by wet weather in the early half of the season, say, from late May to July. In a dry season, like the present, very little injury is likely to arise from it.

Factors That Help to Control.

Clean conditions in and around the cherry orchard lessen injury from plum curculios. Good pruning, by letting in air and light, makes it easier to control, because this aids in circulation. Black knot should always be cut out and burned whenever seen. Prunings of all kinds should be burned before the first of May. Good cultivation in the early part of the season, say, up to the time the fruit begins to ripen, aids in giving the trees vigor, and therefore

helps to prevent winter injury. Good drainage is essential to healthy trees; cherry trees cannot endure "wet feet."

Spraying Cherry Orchards.

Each year cherry growers as a class are beginning to see more and more clearly that it pays to spray their trees. The expense is small and the benefits great. Usually three sprayings will suffice. These should, as a rule, be: First, just before the buds break; second, as soon as the fruit is formed and nearly free from remnants of the blossom, so that it can be covered by the spray, and, again, just as the earliest varieties are beginning to color. For the first spray on sweet cherries, use one gallon of lime-sulphur to seven or eight gallons of water, and to every 40 gallons of the diluted mixture add Black Leaf 40, according to the direc-

tions given on the can, for the control of black aphids.

For sour cherries, either lime-sulphur, one gallon to about 25 or 30 gallons of water, or Bordeaux mixture (four pounds blue-stone, six pounds hydrated lime and 40 gallons of water) may be used. Omit the Black Leaf 40, as aphids seldom trouble sour cherries.

For the second spray, my preference is Bordeaux mixture of the above strength, or even a little weaker, and add to each 40 gallons of it one pound of calcium arsenate or one and a quarter pounds arsenate of lead powder or two and a half pounds arsenate lead paste. Lime-sulphur and the above amount of arsenate of lead is also fairly good, but not equal to the Bordeaux.

For the third



In the "good old" cherry time—this month of July—cherry orchards are alive with people and promise. In all fruit growing provinces, farmerettes have eased the labor situation during the past four or five years—and they are still on the job. The illustration shows a busy bunch in Mrs. Pooley's orchards at Kelowna, B.C.

spray, use the same mixture as for the second, giving here again the preference to Bordeaux mixture. These three sprays will do a great deal to insure healthy foliage and a clean crop of cherries year after year, and will also do more than almost anything else to guard the trees against winter injury.

I am planning this year to apply a late spray to sweet cherries—about four days before picking, to prevent

brown rot. In previous experiments with sulphur dust, I demonstrated that this could be applied just before picking, and would do a great deal to save the crop. Many persons, however, have no duster; hence, the plan to test out a liquid spray that will accomplish the same object and yet not appreciably stain the fruit. Should these tests prove satisfactory, full information will be given for next year's crop.

The Latest on Grapes

"EARLY plowing and working of the vineyard is the salvation of the grape vine and crop in some seasons," said H. D. Glover, of Fruitland, to the Editor of *The Canadian Horticulturist* last month. "Here's an illustration: Last year, in one grapery, I plowed half the rows as early as I could get on the land, and plowed the remaining half three weeks later. The crop on the vines that were plowed early was nearly double the crop on those that were not worked until late, and the bunches were bigger and better in every way."

In regard to the Catawba grape, which most growers claim is not satisfactory season by season on account of its habit of late bearing, Mr. Glover stated that this variety ripens with him and is a sure cropper every year, when cultivation is started early and continued often throughout the season. "I tried an experiment with this grape. I had two rows that would never ripen properly, but, when I commenced plowing early and giving cultivation after every rain and at regular intervals in dry weather, I was rewarded with a fine crop, and every berry dead ripe. The Catawba will ripen every time, if the vines are trimmed out well and the soil given good cultivation."

Wood Ashes for Size and Color.

"Another experiment that I tried, and that has given excellent results, was in the use of wood ashes on grape soil. I secured some lime dust and mixed it half and half with wood ashes, and applied the combination on 13 rows of Concord, leaving about the same number of rows in the same vineyard untreated. I applied two scoop-shovelfuls to a vine. There was not much effect shown the first year, but the second year those 13 rows of Concord were the best I ever saw; the grapes were big, sweet, deeply colored, and everyone fully ripe. The grapes on the rows that were untreated were

very poor. One end of the rows in each case was on sandy soil and the other end on clay, so there could not have been any soil influence on the results."

Better results even than this were shown in the use of wood ashes on Campbell's Early. In this case lime dust was not included. "Campbell's is inclined to have small berries," said Mr. Glover, "so I thought that I would find out if an application of wood ashes would have an influence. On a number of vines, to which I applied wood ashes in winter, the fruit the following fall was large, with no small ones, and dead black in color. The crop on untreated Campbell's alongside the others was fair, but the bunches contained the usual showing of small grapes. The results from wood ashes on these Campbell's Early vines were even more marked than on the Concord."

Many Vines Winter-killed.

Last winter was severe on grape vines. Many growers reported a large number of vines killed. No one variety escaped at the expense of others. Some growers reported that the red varieties were hurt most, while others found greatest damage among the blues and blacks. On account of this winter-killing, the grape crop is not expected to be nearly as heavy as last year.

C. C. Pettit, Fruitland, speaking of the Delaware grape, said that there was a demand for this variety in some markets, but that it was not much grown, because the birds go for them and they crack easily. To reach the market in good shape, Delawares must be picked just before they are fully ripe. Lt.-Col. H. L. Roberts, Grimsby, thought that it was rather fortunate that the demand for Delawares was not greater than it is, because of the trouble to grow this variety on account of damage by birds.

The Grape Situation.

A survey of the grape acreage and

crop outlook in the Niagara grape belt was being made last month by the Niagara District Grape Growers' Association. The results of this survey will be published as soon as available. H. K. Clemens, St. Catharines, the secretary of the association, expressed the opinion that the growers should not contract for grapes till they knew approximately the crop that they would have. "The Americans are contracting this year at higher prices for all kinds of fruits. The Canadian grower should not be in too much of a hurry." Mr. Clemens was strongly in favor of all the fruit growers' associations and interests in the Niagara district getting together and forming one big central selling organization, with branches. He contended that the growers must come to this sooner or later, and the sooner the better. He thought also that the United States and Canada should adopt universal packages. He favored the four-quart and 12-quart (Imperial) packages, as used in New York State. Lt.-Col. H. P. Van Wagner, Stoney Creek, also favored this standardization of packages. In the same connection, F. G. H. Pattison, Winona, referred to the excellent opportunity for developing a market for Canadian grapes across the line. United States vineyards had been badly neglected in recent years, and were now producing only one ton of grapes where formerly they produced three tons.

Size in Black Caps

W. M. Gayman, Vineland, Ont.

My Black Cap raspberries usually produce good growth, but, for some reason or other, the fruit seems smaller in size than it should be. This is not the case every year, but it happens occasionally. Would there be any advantage in giving the Black Cap land an application of nitrate of soda a few weeks before the berries are ripe? Have you any other suggestions?—S. A., Lorne Park, Ont.

An application of nitrate of soda would not remedy the trouble. The small fruit may be due to one or more of three causes: 1, topping too high, or long; 2, leaving too many canes; 3, winter injury.

Summer Pruning Raspberries

W. M. Gayman, Vineland, Ont.

Is it advisable to prune or pinch back raspberry canes in summer? When should this be done, and how?—F. R., Mount Forest, Ont.

The topping of raspberries should be left until spring for best results one year with another. The young canes afford shade for the fruit and prevent sun scalding. Just where to cut the canes depends on how growthy they are. We cut between the small close buds and large fat ones.

Lessons From the Orchards at Macdonald College*

Prof. T. G. Bunting, Macdonald College, Que.

THE orchards at Macdonald College, in the Province of Quebec, are located twenty-one miles west of the city of Montreal, and comprise thirty acres, consisting of

tween the tree rows was intercropped, and after this time, as the orchard was commencing to bear more heavily, it was thought wise to discontinue intercropping, although some parts of

the trees it could not be recommended, although an excellent growth was secured. The result of the fertilization of the ground for these intercrops and their cultivation has stimulated a heavy wood growth, and many of the trees have not come rapidly into bearing, but now that they are larger are capable of bearing heavier crops, and the intercrop provided the return during the early period of the orchard. The intercrops in addition to providing a revenue considerably reduced the cost of cultivating the orchard, as the cultivation instead of being solely charged to the orchard is largely charged against the intercrop.

The result on the fruit of the heavy feeding and cultivation of these intercrops has been to greatly increase its size, and on the whole, although of good color, it has not been so well colored as plots where cultivation was stopped late in June or early in July.

In latter years of intercropping and especially when the trees were carrying considerable fruit, the work of spraying did much damage to these crops in that they were tramped on and driven over by the spray wagon and team, and the men in quickly moving about with a line of hose also did much damage.

Cover Crops.

A number of different kinds of cover crops are sown during the latter part of June or early July each year. At first these crops were sown along the strip occupied by the tree row and where they would not interfere with the intercrops. As the area in inter-

twenty-four and a half acres of young apple trees, twelve and thirteen years of age, an acre and a half of American plums, some cherries and pear trees, and some older apple trees from twenty-five to thirty years. The standard apple trees have been planted 33 feet by 33 feet with fillers one way consisting of early bearing apple trees, sour cherry and plum trees, mostly of the American group.

Over 100 varieties of apples, including a number of Mr. Macoun's named seedlings have been planted. Twelve varieties are represented by forty or more trees of each—12 by 20 or more trees, and the balance by from one to four trees.

The soil is a fertile clay loam overlying a rather stiff clay and underneath this at varying depths is rock. The land has been fairly well drained with tile, and for the most part dries up in the spring much earlier than adjoining undrained land.

Culture.

The orchard has been well cultivated and planted with intercrops, consisting of potatoes and other vegetables, strawberries, some raspberries and clover. During the first five years of the orchard the intercrops occupied a large part of the total area, but as the trees increased in size this area was decreased in order to permit of cultivating the tree rows without seriously interfering with the limbs of the trees. By the tenth year approximately only one half the space be-

tween the tree rows during the past three years. The intercrops have been quite satisfactory and profitable and would be recommended for any young orchard where an adequate market can be found for the produce. Potatoes, beans, beets, carrots and turnips, cabbage, squash, tomatoes and early short varieties of corn, strawberries, and raspberries have all been used extensively.

Clover planted as a catch or cover crop in June on one occasion was allowed to grow the following year for hay, but on account of the difficulty and cost of getting it out from among



Buckwheat growing along the rows of trees in Macdonald College orchards. Potatoes were used as the intercrop.



Oats grown as a cover crop in Macdonald College orchards. The photo was taken last fall just after potatoes grown as an intercrop had been harvested.

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

crops was decreased the cover crop strip was proportionately increased, so that by the tenth year a strip approximately 16½ feet wide was in cover crop. Since then each year a cover crop has been sown over the entire area of the orchard where other crops were not grown or weeds were allowed to grow.

The cover crops grown may be divided into three general classes; first the legumes, including clovers, vetches, horse beans, and cowpeas, of which the first two are most satisfactory, but of late years have been too costly for seed for orchards not particularly in need of nitrogen. Second, broad-leaved non-legumes such as rape and buckwheat; these have the advantage of producing an abundance of humus and are not so costly. They smothered weeds by their rapid and strong growth but hold the dew and rain and make it very wet under foot at harvest time, and difficult to gather windfalls. The third class are the grains, including oats, rye and winter wheat, of which the two latter are the best, producing an abundance of humus, and not having the decided objection of buckwheat or rape as being so wet underfoot. A fourth class may be referred to as weeds, which have the advantage of costing nothing for seed, and usually give a good covering to the ground. At the present writing we have a piece of chickweed which is ideal from the standpoint of protection and the orchard. In the areas allowed to grow up in weeds we handle it like the rape, and cut it once with the mower about the end of August or sometime before the harvest. The objection to this is the injury to windfalls by punctures in the skin of the fruit in falling on the stubble.

Fertilizers.

Fertilizer experiments have been carried on in one block of over seven acres, including apples, and some cherries and plums used as fillers. In these tests there are check plots with no fertilizer, stable manure used heavy and light, and various combinations of commercial fertilizers, including an excess of each of nitrogen, potash, and phosphoric acid. In this block intercrops were grown continuously for ten years, and the land was moderately fertilized with stable manure over that part of the centre of the tree rows occupied with crop. During the last three years no intercrops were grown. The cover crops during this time have consisted of clover or rape. Up to the present no differences in either wood growth or fruit production as the direct result of the use of fertilizers either manure or commercial has been noted, but it must be borne in mind

that this block has good soil, and has been well cultivated and seeded to cover crops which, undoubtedly, has added a large supply of humus and available plant food to the soil. Whether or not marked differences in regard to yields will later occur as the result of fertilizers remains to be seen.

Pruning.

The orchard has been annually pruned and on the whole rather heavily. This heavy pruning has been due in part to the rapid and strong growth of the trees. One of the chief difficulties in connection with pruning has been the large number of main limbs that have been allowed to form from the trunk in the early years of the orchard. In some cases there are from ten to a dozen quite close together, and this has been a source of weakness in the trees, resulting in cracking and splitting in the main crotches, and it has been a favored place for the development of canker. This injury has later resulted in the breaking out of some limbs, and following the winter of 1917-18 considerable canker developed. Three to five main limbs well placed on the trunk are sufficient for the main scaffold of most apple trees. Lighter prunings on the whole would likely have resulted in earlier crops on some varieties.

Some top-grafting on hardy, vigorous trees, such as Arabka and Longfied, has been done, and where the varieties used for the graft are hardy they have done well. However, a number of varieties not recommended for the province on account of lack of hardiness and including Spy, Baldwin, King, Gravenstein, etc., were used, and these were entirely killed out in the winter of 1917-18, although Arabka trees came through fairly well.

Summer Pruning of Apples

M. B. Davis, C. E. F., Ottawa.

Much has been written regarding the merits of summer pruning, and considerable difference of opinion exists as to its value. In large part, this is due to a misconception of the proper time to summer prune. Summer pruning has been practised at two distinctly different periods. One period is early in summer, probably the first or middle of June to the first of July; the other period is later in the season, just as the terminal buds are forming. This latter type is adopted with the idea of promoting the formation of fruit buds, but, according to results from the Vineland Station, it has not been attended with sufficiently desirable results to warrant its continuance.

The first type referred to, namely, pruning in early summer, has proved quite useful in experiments conducted at Ottawa. This system has been referred to frequently by the Oregon Experiment Station. Its main use is with exceptionally vigorous growers which produce long annual growth with but few laterals. The ultimate fruitfulness of a tree is dependent upon the number of fruit-buds it can bear and this, in turn, is dependent upon the amount of wood or surface which is capable of producing fruit buds. A tree with but few laterals is not capable of such great production as one with a fairly large number of well spaced laterals capable of bearing fruit spurs. Hence the necessity of fostering the formation of a reasonable number of lateral branches in those varieties which do not tend to produce them. Early summer pruning is an aid in this direction.

Early in the season when a branch has produced, say 10 inches of growth, thus reaching a point where it could stand a lateral branch, if it is pinched off at this point a lateral will likely be produced close to the point of pinching, while at the same time the bud, to which the main leader was pinched, will continue its growth so that by the end of the season instead of having a long branch, 24 inches or more in length, without a lateral, there is formed a growth of about the same length but with a lateral midway or thereabouts. This saves cutting off, say, 10 or more inches of wood in the spring in order to encourage the formation of laterals. Thus, instead of relegating 35 or 40 per cent. of the tree's wood to the brush heap in order to attain a certain end, only a very small percentage need be thrown away, and, in addition to conservation of energy, a year may be gained in shaping the tree. This system cannot be unqualifiedly recommended for slow growing varieties, but it is very useful for rampant and straggly growers.

So, from the beginning of a tree's life the idea is to practice the minimum amount of pruning compatible with good form and vigor of the tree, adopting either spring or a combination of both spring and early summer pruning, depending upon the habit of the variety in question. With this idea in mind and fully carried out, there will not be any necessity for the butchering of trees.

Arsenate of lime is dangerous to foliage when used alone, but there is no objection to its use with Bordeaux mixture.

A New Power Extractor

Wm. A. Weir, Toronto

GREAT interest is evidenced in any new suggestion on mechanical devices connected with power extractors. At a meeting of the Brant County Association in Brantford on May 29, a most convincing test was given the New Markle Extractor. This machine is an improvement on the machine which was exhibited at the Ontario Beekeepers' convention in 1917, and for a comparison I have gathered the full details for publication. I might mention, however, that patents are pending on the new machine.

All power extractors are designed to utilize the principle of centrifugal force, but the arrangement of the wire baskets in this new extractor is a distinct departure. Instead of revolving inside the extractor can, with side of the basket practically parallel to the can, the side describes an acute angle with inside of the can.

The inventor, Mr. G. W. Markle, of Brantford, has always maintained that centrifugal force for the extraction of honey was not used in the best possible way to get the best results in the well-known types of power extractors. He claims that the new angle of the basket to the extractor can joins the power of centrifugal force and inertia of the honey, which at this new angle is not losing force by dragging against the back of the cell.

In addition, he says, with the baskets at this new angle, the honey is now extracting into a pocket of vacuum instead of against a high air pressure. The claim seems reasonable. There is no question about the strong current of air which is developed by the rapidly revolving baskets within the stationary can. In running the baskets at an angle, the pressure should cease to do harm, as its pressure is only as wide as the outer corners of the basket. Therefore, from the outer corner of the basket and along the face of each comb there is no pressure and a vacuum is formed. The new angle of the comb also

places it in the best position, says the inventor, to part company with the honey. In the new position the cells are turned slightly backward. The comb, when being extracted speeds rapidly forward while the weight of the honey pulls backwards.

Second only to the efficiency in extracting is the demonstrated advantage the new model has of yielding up unbroken combs at the end of the whirl. The baskets are centrally pivotted instead of hinged at one side and even, though the baskets are automatically reversed at high speed, the combs do not break. We have always

at the bottom outside of the can. The can simply sits on top of the machinery to catch the honey and can be turned around without disturbing the machine. The baskets slip off and can be cleaned as easily as the old type. In this connection it is well to add, that there is no chance of the honey coming in contact with the machinery.

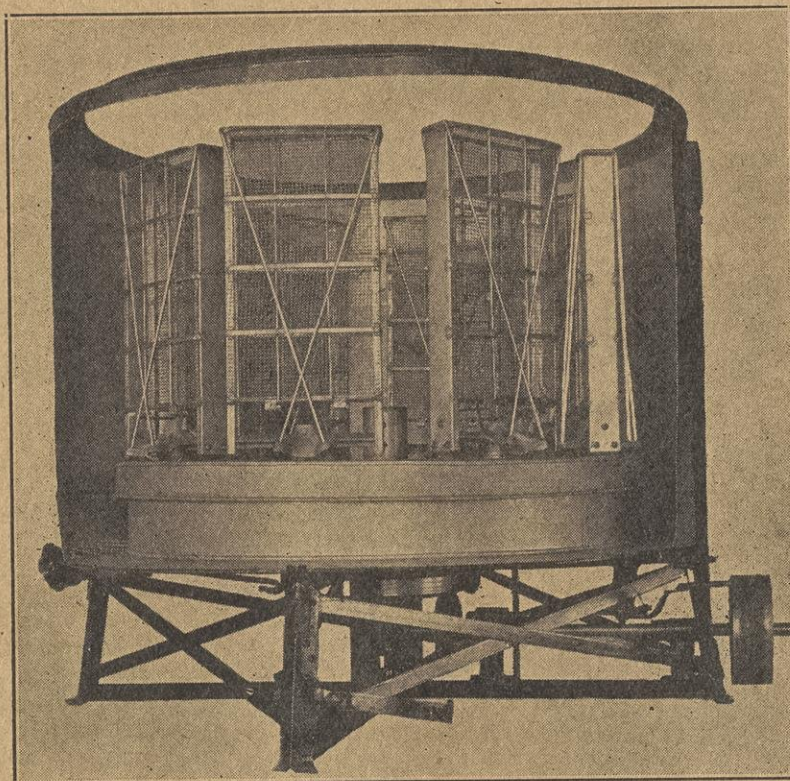
The machine is very conveniently mounted on a steel stand and the honey pump is directly connected with the main drive shaft, so that the honey pump belt is eliminated.

The ease of operation and the time saved is also much in favour of the new model. Owing to the weight of the reel with baskets bearing directly on friction pulley, the use of heavy thrust springs, etc., is eliminated and a minimum of power is used. The proper thrust on the transmission pulley is automatic and fool proof. Reversing of the combs is done at full speed as many times as the operator wishes, by foot or hand tripping a small lever, and the time required for extracting a set of combs is less than with the old type. There is also nothing at the top of the can to impede rapid handling of the combs in and out of the baskets.

The most difficult question of all—durability—was seriously discussed at the 1918 convention of the Ontario Beekeepers' Association, especially with regard to the centrally pivotted baskets.

Mr. Markle has apparently accomplished his object of securing great strength without adding excess weight to the machine and baskets. The baskets have side braces of steel rods, one fastened at each top corner of basket and extending down to the lower opposite corner of the frame. They, therefore, cross at the centre of the basket.

meeting already mentioned of the Brant County Beekeepers' Association on May 29, a 10 pound weight was put at the top of each basket and the baskets reversed while



Side View Markle Power Extractor—Can of extractor cut away to expose view of baskets and revolving table. Note all mechanism outside of the can. The pump is to extreme right of the reader.

had to caution the operator of the power machines to use care when reversing as "slamming" the baskets when reversing did serious damage to new combs especially.

The new extractor appeals strongly to the sense of cleanliness and convenience. We never did like the maze of steel work, cogs, bands and such like at the top of the extractor. True, the baskets can be removed and pulled to pieces but the cleansing of the can and the remaining iron parts was an awkward job at best. The new model has all the machinery

the machine was running at full speed. The writer has been informed that for days previous to this meeting the extractor had been run to detect any weakness in the new model.

The cost of this new machine is, of course, very much higher than the old style machine, and it is yet to be seen

how the costs of operating, depreciation, etc., affect the investment, but already some of our most prominent beekeepers have declared their confidence in the investment, by ordering a machine or machines for the work of extracting this year's crop.

Preparing For Winter Stores

The great difficulty beekeepers are experienced in securing sufficient granulated sugar for fall feeding makes it necessary to consider the question of next winter's stores now. The following contributions are practical suggestions from practical beekeepers.—Editor.

Favors Sugar Syrup

W. W. Webster, Little Britain, Ont.

IN most seasons before and during dandelion and fruit bloom flow the old honey becomes scarce in many of the hives, so that the dandelion and fruit bloom honey is mostly consumed in brood-rearing. In colonies, however, where a surplus is gathered, I believe it makes a good winter food, if it does not granulate.

Clover honey is usually good, and especially good for building up in the spring, as these combs usually contain much pollen.

I have generally had good success wintering on buckwheat combs, but not always. When there has been a good flow, I find it about equal with clover honey for wintering, but when the flow is slow the honey contains nectar from other fall flowers, and in consequence does not winter the bees so well.

Sugar syrup is a good food, but lacks the pollen so necessary for early spring, but seems to be the least apt to granulate in the combs.

.Clover Honey vs. Sugar Syrup.

There was a time, not long ago, when I considered clover honey on a par with sugar syrup for wintering. But after last season's wintering with fatal results on clover honey, I have changed my ideas considerably, and now much prefer the sugar syrup. Last season the dandelion, fruit bloom, clover and buckwheat honeys all seemed to granulate, while the sugar syrup did not do so. I would say feed sugar syrup to your bees. I have experimented some with the different winter foods, sometimes removing all honey and feeding sugar syrup exclusively with good results, and I have also wintered successfully on clover honey alone, and also with buckwheat honey only. But last season all honey seemed to granulate,

but not the sugar syrup, so I conclude sugar syrup is the best.

Granulation.

Granulation was our worst trouble in wintering last season. We may ask ourselves, how are we to overcome this granulation of honey, which usually appears to a certain extent, though not always so much as last year. Would it not be a good plan to remove all honey from the hive and feed sugar syrup only, providing sugar is obtainable this fall?

Supposing that last year's winter loss was due to granulation of honey, which supposition seems to be too true, let us then also endeavor to keep all colonies strong in young bees in the fall, as there is much less granulation of honey in the stronger colonies.

In speaking of sugar syrup I have reference only to granulated sugar syrup, as it has not been my privilege to test the raw sugar syrup as yet. I ordered some once, but, fortunately or unfortunately, the supply ran out. If the price of granulated sugar keeps advancing, I may be compelled to purchase some raw sugar this fall and then be able to give it a fair test with other winter foods.

Colonies Do Best on Sugar

Ewart McEvoy, Woodburn, Ont.

DURING the last two winters we have used several classes of feed. For the winter of 1918-19, we fed some pure Demerara crystal syrup (thoroughly boiled and skimmed), Demerara syrup and cane sugar syrup mixed, and pure cane sugar syrup. The conditions being ideal for outdoor wintering, it was difficult in the spring to detect any difference, and we had to refer to our books to find the colonies that were fed any proportion of Demerara syrup. We also fed cane sugar syrup to colonies that had various

amounts of buckwheat honey in their brood nests. Other colonies had sufficient buckwheat honey without any feeding. We found in the spring that almost without exception the colonies wintered on pure buckwheat honey, and buckwheat honey and cane syrup mixed, came through in about the same condition, but built up more rapidly than colonies wintered on pure syrup.

Last fall we fed no Demerara syrup, partly because we had sufficient cane sugar, and partly because of the extra labor it takes to prepare it. We had colonies that had enough buckwheat honey to winter them, and others that required some syrup. The unfavorable winter, however, proved fatal to a number of colonies fed both ways; the colonies with the natural stores faring the worst. Dysentery was the chief trouble, although in some colonies we found the natural stores candied solid, and the colony dead from starvation.

Without exception our best colonies this spring are those that were fed entirely on pure (granulated) sugar syrup last fall. We have not wintered on white honey stores for years, but a neighbor wintered seven colonies on pure clover, and six of the seven are in first-class condition, while the other is alive, but queenless.

In summing up, we believe, one winter with another, that we prefer cane sugar; but, if necessary, we would not hesitate to use either Demerara or buckwheat.

Apiary Reminders

It is not the number of colonies in the apiary that count in crop-getting, but the number of bees in the colony.

Supers of section honey should be removed as soon as they are capped over to avoid travel-stained sections. Unfinished sections should be returned to good strong colonies.

Comb honey can only be profitably produced on big, strong colonies. Run all others for extracted honey.

Ninety per cent. of the swarm problem is lack of room. Give plenty of room in time for breeding and honey storage, and you have one big phase of this problem in hand. Superseding the queen and swarming strains of bees are the other main contributing causes in a normal season.

"Green" honey is a poor product. Leave all combs on the hive until well capped. Extracted honey producers improve the quality considerably by leaving honey on the hive as long as possible.

All readers should exchange ideas on apiary problems and practices through the columns of **THE BEEKEEPER**.

Harvesting and Care of Extracted Honey

John T. Wilson, Petrolia, Ont.

OWING to the high cost of labor, it is absolutely essential that the extensive honey producer procure the best equipment that money will buy. The first item in his outfit is good combs in which to store the crop. Either the regular Langstroth size or the shallow Langstroth combs are the best. The writer uses both sizes. I like the shallow combs very much, but they require more handling than the deep comb, for the same amount of honey.

Honey House Equipment.

The extractor which I use is a four-frame power machine, but I often wish that it was a six or eight-frame machine. The capping-box should be capable of holding at least one day's cappings, and have a good method of draining the honey. I connect the outlet of the box to the pump or extractor by means of a hose. There are a number of good capping melters on the market which some use successfully, but I have discarded the one which I have.

A steam-knife is a valuable labor saver. If you have never used one, get one for this season's crop. It is much easier on the wrist than the cold knife, and one can work a great deal faster with the steam-knife.

The honey pump eliminates a great deal of heavy lifting. I would not care to dispense with mine for double what it cost me. I do not worry about the pails running over now when emptying the extractor and capping-box.

It is necessary to have storage tanks for at least three days' extracting. These cans must be placed on stands high enough so that one can fill the 60-lb. cans placed on a platform scale.

Supering.

The first supers are put out a little before the expected flow arrives, so that the bees will be more contented and not develop the swarming fever. More supers are added as needed, and generally put below the supers already on the hive. The last super is always put on top of the supers already on the hive. This last super acts as a safety valve if the flow should continue longer than expected. If the flow declines rapidly, this super will not be used at all, providing there is storing room in the supers below. As a rule bees will not carry nectar across sealed honey to store above, unless crowded for room.

Extracting begins about July 20 to August 1, or later will not hurt, as we

have not a buckwheat flow in this locality. The bees are removed from the supers by means of the bee-escape board. The ventilated board is more generally used. I have used the brush method, but prefer the escapes.

If you have a honey-house covered with prepared roofing, you need not worry very much about keeping the honey warm enough to extract easily. It is generally too warm to work with any comfort, especially if there is an oil stove going to heat the honey-knife. To extract late in the fall I heat the honey by means of a small laundry stove.

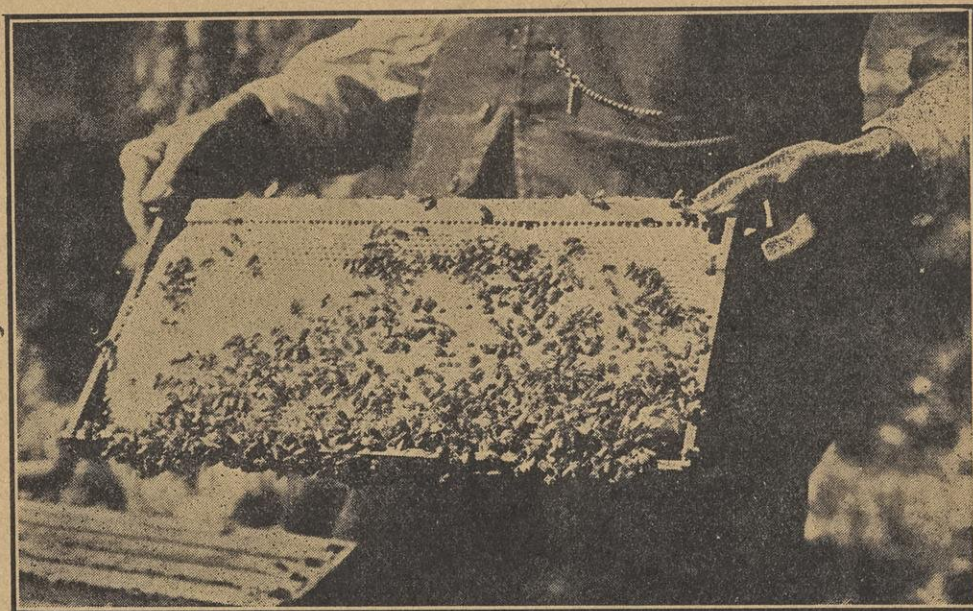
Honey-House Operations.

I always have a system when doing my extracting, and supers, combs and

piece of the box on which to rest the end-bar of the frame while uncapping is very convenient. One may then reverse quickly with the left hand only, to uncapped the other side.

When using a power machine, one must use greater care to avoid breaking tender combs. To prevent this, extract part of the honey in one side of the comb and reverse. Extract the second side clean, then reverse again and finish the first side. New combs are very tender, and great care is required to prevent injury.

The storage cans which I use are five feet high. The honey is pumped into them direct from the extractor and capping-box. I have used various strainers, but last season discarded them all and used the gravity method. If the



Only well capped combs of honey yield thoroughly ripened honey. Such honey has all the flavor and keeping quality, and brings repeat orders. Extract from combs that are at least two-thirds capped over.

honey move around the house in a circle, from beginning to end of the operation, thus saving confusion and unnecessary steps. When the supers are wheeled in, I place them in position, near the capping-box, and as the combs are removed from the supers they move to the left of the capping-box; then to the extractor, next to the empty supers, and are tiered up again to the left, where they remain temporarily.

When uncapping I use a good steam pressure through the knife, and slice the cappings off from the bottom upwards. This method seems the handiest to me. The cappings slide off the knife, and do not fall against the uncapped comb. A nail point in the cross

honey is allowed to stand for three days at least, all particles of wax will rise to the top, and may be easily skimmed off. The honey may then be put into the retailing packages.

Packages Used.

I use nearly all the packages on the market, from one-pound glass jars to sixty-pound tins. Most of the honey is retailed in five and ten pound pails. The sixties go principally to the wholesale houses (if I have any for them) and to certain parties in the West who prefer that package. They are cheaper generally, and are not so liable to be opened in transit as the five or ten pound pails. The pails are crated in cases containing twelve five-pound and

(Continued on page 200.)

The Canadian Horticulturist and BEEKEEPER

Published by The Horticultural
Publishing Company, Limited.

Third Edition of The Canadian Horticulturist.
Devoted to the interests of the beekeepers of
Canada.

Official organ of the Ontario and New Brun-
swick Beekeepers' Associations.

Subscription rate, \$1.00 a year. For foreign
subscriptions add 50c extra for postage, and
for subscriptions to United States and the city
of Toronto, 25c a year.

Advertising rates and sample copies free on
request.

Communications should be addressed

THE CANADIAN HORTICULTURIST AND
BEEKEEPER,
Peterboro, Ontario.

THE EDITOR'S DESK

The new taxation regulations which were announced on May 19 by Sir Henry Drayton, Minister of Finance for the Dominion, resulted in the following correspondence which will be of interest to all beekeepers:

Extract from a letter addressed to the Hon. Minister of Finance, Ottawa, Canada, on June 1, 1920:

"The Beekeeper's position under the new Schedule of Taxes published in the newspapers, under date of May 19, is somewhat obscure, and we would like to make clear the exact status of the beekeeper in the next issue of our publication—'The Beekeeper'—for the benefit of all concerned.

"It would appear from a reading of the newspaper accounts and a study of the dictionary meaning of 'syrup' that it is your intention that honey be exempt. The Standard Dictionary describes honey as follows:

"A sweet syrupy secretion derived chiefly from the nectaries of flowers and deposited in honey combcell by bees and used as a common article of food."

"Honey is a product of farming, and as practically every other home-produced farm product has been clearly exempted, we hope you will be able to confirm our present understanding."

On June 19, we received the following reply from the Assistant Deputy Minister of Inland Revenue, Geo. W. Taylor:

"I acknowledge receipt of your letter of the 1st inst. addressed to the Honourable the Minister of Finance, which was transferred to this Department for reply.

"You are informed that honey is exempt from the application of the sales tax.

"I am enclosing herewith copy of the Resolution before Parliament and would refer you to section 8 (d)."

The section to which the Assistant Deputy Minister refers in the resolution reads in part as follows:

"This tax on sales shall not apply to sales or importations of . . . honey; . . . sugar . . . maple, corn and sugar cane syrups and all imitations thereof."

The above letters clarify the position of beekeepers so far as honey is concerned. There are other products of the apiary such as beeswax and bees which are not mentioned in the exempted articles, and there are also quite a few beekeepers who manufacture hive furniture and winter

cases for sale to fellow beekeepers. The following letter was therefore addressed to the Honourable Minister of Finance to get a clear statement on the position of such under the new tax schedule:

"We have quite a number of beekeepers in Ontario who do trade with their fellow beekeepers, supplying them with bee supplies of all sorts, and the following questions have come to us for answer. Would you kindly let us have your rulings in the matter? Does the tax schedule apply:

"First—To Beekeepers who make a business of selling bees and beeswax produced right in their own apiaries, selling (a) to manufacturers or wholesale concerns, and (b) direct to another beekeeper for his own use?

"Second—To beekeepers who manufacture hive-parts and sell direct to fellow beekeepers who manufacture hive-parts and sell direct to fellow beekeepers, not for resale?

"Third—To beekeepers who buy quantities of bee supplies from the manufacturers and retail to fellow beekeepers?

"We would like to publish this letter and your reply in the July issue of 'The Beekeeper' for the information of all concerned."

The Assistant Deputy Minister of Inland Revenue, Geo. W. Taylor, replied to the above letter under date of June 23, 1920, as follows:

"I acknowledge receipt of your letter of the 1st instant, addressed to the Honourable the Minister of Finance on the subject of apiary supplies.

"You are informed that sales by beekeepers of beeswax and other articles produced in their apiaries, direct to manufacturers or wholesaling concerns, are subject to the 1 p.c. Sales Tax. Sales made by such beekeepers direct to other beekeepers for their own use are subject to the Sales Tax of 2 p.c. The sale of hive parts manufactured by beekeepers and sold direct to users, is subject to the 2 p.c. Sales Tax.

"The sales of supplies by beekeepers to users are not subject to the payment of the Sales Tax, if such supplies were purchased by the selling beekeepers from other manufacturers."

An excellent 12-page bulletin on "Transferring of Bees," by F. Eric Millen, Provincial Apiarist for Ontario, is before us. It is classified as Circular No. 27 under the Fruit Branch, Department of Agriculture. The Heddon, Self Transfer and Direct methods of transferring bees from box hives to the movable type are all concisely described and the oft repeated question, "How can I transfer bees from a chimney etc," is effectively dealt with. Every beekeeper should write to the Department for a copy of this bulletin which is sent free of charge.

Isle of Wight Disease

A. W. Sanders, Sturgeon Creek, Man.

In an article of mine in your columns last January, entitled "The Disappearing Disease," I made the statement that the researches into the causes and treatment of the dreaded "Isle of Wight" disease that has caused such heavy losses in England had not had any "very conspicuous success." This was the impression that had been gathered from such statements as have found their way into the American Bee Journals during the past few years. Now, however, there has come to hand from Professor Rennie, of the University of Aberdeen, Scotland, a bulletin containing the

results of several years of experiment in this direction, which seem to indicate clearly the nature of the infection which causes "Isle of Wight" disease. I would much appreciate it if you would publish this, as I feel that such careful scientific work should be accorded its due even where we are not at the present time faced with the disease.

Some of your readers may be interested to know that the disease is now thought to be carried only by the adult bees, and that hives, brood and honey were all tested as to the possibility of conveying the trouble without result, but that infected bees were in most cases the means of introducing the disease. If this should prove to be the only method of transmitting the disease, it might perhaps in the end prove to be controllable by saving the brood and honey from affected colonies and sulphuring and burning the adult bees before they had time to spread the disease. But this is, of course, only conjecture. It is interesting to note that "Isle of Wight" is now shown to be quite separate from "Nosema Disease."

Rear Your Own Queens

J. A. McKinnon, St. Eugene, Ont.

There is nothing like the knowledge gained with queens in practical experience, and the beekeeper who has not mastered queen rearing and who has to send away for his queens is working under a handicap. It is time well and profitably spent rearing one's own queens. I cannot see a reason why a large honey producer should not raise his own queens. Of course, there is the extra work, but we cannot have anything worth while without a certain amount of study and work.

In 1916, with a 14-year old boy as a helper, I harvested a crop of 15 tons of extracted honey, doing all the uncapping myself, and took care of the swarming problem at two out-yards and sold 1,059 queens besides rearing my own. I must confess that the work at times was a little more than I could handle, and I now say, "Never again."

As a paying proposition selling queens does not look good to me any more. At the present price of honey, I can produce \$2,000 worth of honey with about half the labor that I could \$1,000 worth of queens. While this work has a fascination for me, I do not purpose rearing as many as in former years as it is work that cannot be done by inexperienced help and with five yards of bees to look after in the swarming season, it leaves very little time for fishing. (I was a fisherman before I ever thought of bees.)

The biggest drawback in Canada to queen breeding is our short honey flow. In the hands of a novice, 50 nuclei would not last a yard of robbers a day once they got started.

I believe that my two helpers and myself made a record last June. I would like to know how our time would compare with others who are doing this line of bee work, (Americans included). We loaded our boxes on the car, drove three miles to an out-yard, made 45 nuclei, back the three miles to the home yard, carried these boxes 75 to 100 yards, placed them on their permanent stands, introduced safely among the bees 45 virgins, picked up our empty cages and left everything in good order; time, two and one-quarter hours, or exactly three minutes per nuclei.

I notice much more interesting reading in The Beekeeper now than you had formerly, which is well appreciated.—A. Guilbert, Peterfield, Man.

Are Labels Deceptive?

C. B. Alden, Toronto.

As a city consumer of honey, and a man whose family is fond of good clover honey, I want to bring to the notice of beekeepers a state of affairs that should be remedied. The buying public are tired of being buncoed by the label "Pure Extracted Honey," covering, as it does, dandelion, golden rod, basswood, and other kinds of odd-flavored honey, as well as clover. A label of that kind, while true, is deceptive. The law should require the label to show the kind of honey as well as its purity.

Last summer in Ottawa, I bought a small jar of clear honey labelled as above. As I wanted clover honey, I asked the grocer if the jar contained that kind and was assured that it did. I took the jar to my home and found that the honey was not clover; it was basswood. Years ago I had something to do with bees and honey and know a little about the business. The vast majority of consumers, of course, do not know the difference, and are doubly deceived, should they have acquired the taste at some time or another, for good clover honey.

In the fall, I moved to Toronto. I ordered a five-pound tin of clover honey from a grocer here, and received the proverbial "pure extracted honey" of another kind—fall honey of a mixture of sources, I believe. At any rate, it was not what I ordered and neither grocer nor anyone could tell what it was from the label.

I believe that the beekeepers of this country would increase their sales of all kinds of honey, if the receptacles were labelled according to variety. There must be a place for all types of honey, and the worst should not be deceptively passed off as the best on the uninformed public.

Some folks may prefer, and probably do, basswood, dandelion and the other kinds. Most people, however, want clover honey, when they can get it, but few know it by that name. When they are once stung by a kind of honey that they do not like, they buy no more. The beekeepers should be made by law to label their product by specific name of class as well as by purity.

[Note.—Mr. Alden's criticism of our honey grading is partially justified, but it is not practicable year in and year out to label honey so precisely as he advocates. Seasonable conditions render it impracticable to secure honey of the same flavor and color year after year, and the variety of flora on which bees work, makes it impossible for a beekeeper to stipulate after certain dry seasons just what percentage of the honey is clover, etc. The only grading rule we have been able to devise is by color. We classify as white, amber, dark amber and dark. Beekeepers are asked to discuss this question through these columns.—Editor.]

Robber Bees in Japan

Yasuo Hiratsuka, Tara, Gifu-Ken, Japan.

During a dearth of honey there is always some trouble with robbing bees. There are several methods to stop the trouble, but none of these methods are successful with us.

Carrying robbed bees into the cellar is, of course, preferable. However, when we do not have a cellar, or we do not like to confine the bees for some period, we manipulate with the wetted grass method as it is stated in the "A. B. C." book. But, it will not do so well.

It then came to mind to manipulate adventurously with some plan, and I succeeded in stopping so bad robbing.

One hive was robbing and one was robbed. The former was a strong colony and the latter was weak. They both were queen-right ones. I carried away the strong, robbing hive, and put weak hive on the stand of strong hive. Then I placed the strong hive upon the weak one's stand.

Most of the robbers went back to their original location, the weak one's new place, and make their loving home there. Field bees from robbing hives did the same way. Field bees from the weak hive went back to their original location, now occupied by the strong hive, and were mostly killed by defending bees.

The queen in the weak hive was not attacked by robbers, because the robbers were so distended with honey that they can not sting, I think.

My fellows succeeded so well with this method, too.

60 lb. Jacketted Container

J. S. Taylor, Richwood, Ont.

I have noted some rather adverse criticism (mostly in *Gleanings of Bee Culture*) of the 60 lb. wood jacketted honey tin, as being too flimsy and entirely unsatisfactory for R. R.

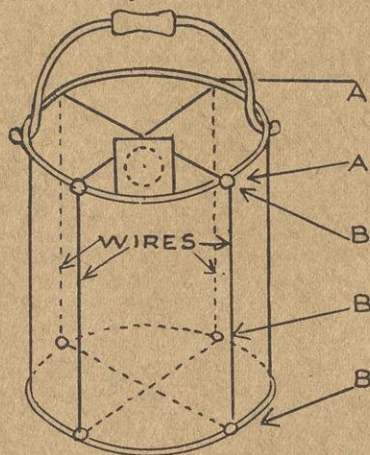


Diagram showing Mr. Taylor's method of wiring 60 lb. Jacketted cans to give the added strength for shipping.

shipping purposes—much loss resulting etc., etc. Much of this criticism is justified. I for one never felt the chances were very good for these packages reaching their destination intact, especially if shipped by freight.

However, this particular container is very handy and quite extensively used especially for dark honey as well as for much of the best white. Some time ago I thought of a rather easy way to make this package strong enough to stand at least all the handling it was liable to get even in going long distances. I have shipped a goodly number during the past two years—mostly to the west, and up to date without loss or complaint of any kind, in fact, all I have enquired especially about have apparently been received in the same condition that they left my station.

I am giving you a rough sketch showing two strands of soft pliable wire (annealed) which are put at right angles across the bottom—up the outside, and across the top of the jacket; and drawn tight at one corner—then a frame staple at each corner completes the job. It takes only three or four minutes, but it eliminates all anxiety as to its safety, and is more than worth the trouble.

If the manufacturers of this package would furnish a fibre disc or rubber ring for the screw top to make the can leak proof, it should with the wiring as shown—make a pretty good and convenient container.

DOINGS IN BEEDOM

ONTARIO.

By Order in Council the following inspectors of apiaries have been appointed and are operating under the direction of the Provincial Apiarist, Prof. F. E. Millen, O. A. C., Guelph: Messrs. Jas. Armstrong, Wm. A. Weir, Wm. Agar, S. A. Stewart, R. M. Taylor, H. C. Harris, Chas. W. Houghton, A. O. Sipple, A. M. Porter, H. Haines, F. Statton, W. Thompson.

A conference of apiary inspectors was held at the Ontario Agricultural College, Guelph, on June 10 and 11. The object of the conference was to thoroughly familiarize the new inspectors with their duties and map out the season's work.

About 50 demonstrations are planned for various points in Ontario during June and July by the Department of Agriculture. A postal card is sent advising each beekeeper within a reasonable distance of each demonstration. A few August demonstrations on preparing the colony for winter are also being arranged.

The summer course in agriculture at the O. A. C. Guelph, includes Apiculture, and it is expected that about 250 school teachers will take advantage of the course during July.

A new bulletin on "Bee Diseases" by Prof. F. E. Millen is now on the press and will be ready for distribution very shortly.

Many beekeepers in Western Ontario are reporting a harvest of honey dew from the spruce trees. This honey dew is dark amber in color and a fairly good flavor.

Fifty or more persons attended the summer course in Apiculture at the Ontario Agricultural College. Prof. F. E. Millen had an excellent elementary programme ready and as much of the study as possible was conducted among the bees. Messrs. Frank C. Pellett, Associate Editor of the "American Bee Journal," Hamilton, Ill., U.S.A.; Wm. A. Weir of Toronto, Ont., and Prof. J. E. Howitt, O.A.C., Guelph, assisted Prof. Millen in the work.

Mr. Morley Pettit, Georgetown, Ont., has purchased a winter home in Miami, Fla. Whether he will keep any bees in Florida is yet undecided, but it is encouraging to Ontario beekeepers to note what he writes in a letter to "The Dixie Beekeeper" May issue, 1920:

"Although I have been looking into the matter of Southern beekeeping for a number of years, I have as yet been unable to learn anything to tempt me to give up Ontario, where we get larger average yields of honey, which is largely of a higher grade and have the season over in a few short months. The winter here is the greatest drawback, but in some ways it is an advantage to the bees when we know how to prepare them properly as we now do."

MANITOBA.

At the annual meeting of the Manitoba Beekeepers' Association a resolution was passed petitioning the provincial government to introduce an amendment to the Manitoba Foul Brood Act compelling all

beekeepers to register with the Department of Agriculture each year not later than April 1st with a penalty for neglect. The following officers were elected: President, G. Gunn, Lockport; vice-president, B. Brewster, Green Ridge; secretary, G. Reddin, Elmwood.

BRITISH COLUMBIA.

Apiary inspectors report that spraying fruit trees in full bloom did considerable damage to apiaries in the Fraser Valley district. Fruit growers are being warned against such practice.

Under the provisions of the provincial Agricultural Act 1915, the British Columbia Honey Producers' Association has been incorporated. In accordance with the requirements of the Act not less than twenty-five persons can subscribe as members of the association. Their headquarters are situated at New Westminster. The annual membership fee is one dollar.

UNITED STATES.

C. H. Whitt, Gimlet, Ky.

Honey and bee supplies are abnormally high in the United States and beekeeping has become more established than ever before. We believe that the demand for queens will be greater than ever. The prices are soaring and this will induce more apiarists into the field again. The demand for queens will likely be far greater than the production.

There has been about 25 or 30% winter loss in the northern sections and some throughout the south. Illinois apiarists

say that they have lost quite heavily. The loss in Kentucky was heavy; in some sections the beekeepers lost practically all of their bees, on account of the shortage of the fall flow and of sugar.

NOTES AND COMMENTS

J. L. Byer, Markham, Ont.

At this date (June 14) alsike clover is full of bloom. The prolonged drouth rushed it ahead ten days sooner than it should have bloomed under normal conditions, taking our late spring into consideration. Most of it is very short, and unless rain comes soon the big acreage bids fair to yield the farmer little seed and the beekeeper little honey. At least it looks that way in our locality, as here the bees are getting nothing from clover at any of the yards near us. We are still hoping that rain will come plentifully and revive the clover before too late, and perchance it may take a second growth, as I once saw it do under similar conditions.

Sweet clover, wherever it is grown, has stood the drouth better, and, as it is not yet in blossom, maybe it will come in handy to bees in such localities. Owing to favorable seeding conditions early in the season, the acreage to buckwheat will be much lighter this year than for some time.

Basswood trees seem to be loaded with buds, but we have in this part of the coun-

try given up all hopes of any more basswood yields, as the few trees left us have failed to secrete nectar for a number of years.

The Fenelon Falls district is particularly hard hit with drouth at this writing, and to-morrow I expect to leave at 4 a.m. with truck to go and move some of the bees from there to a sweet clover and alsike district. Prospects are to start to-morrow evening and drive eighty miles with the bees before morning. But more anon.

Aluminum Combs.

References have been made to the new aluminum honey combs in this journal. I myself have had something to say about them, mostly of a favorable character. I found the bees last summer raised brood normally in the combs, in so far as I could judge. But this spring the same bees, headed by the same queen, absolutely refused to use these combs for brood rearing until settled warm weather came. When it did, a few eggs were at last laid in a comb next to the brood nest of a strong colony. I am much afraid that this new invention will go the way of many other things that much was expected of, but which in the actual try-out, failed to make good. I have only used them in a very limited way, so should not express my views on the matter very plainly as I might be wrong. However, my best wishes are with the inventor, and, while I have grave doubts of their ultimate adoption, I shall be more than pleased if my prophecy proves to be wrong.

Honey Prices.

Some are asking what I think about the prospects for prices on honey this season. Frankly, I know nothing about the situation that would justify me making any statement in regard to the matter. Personally, I do not think honey will go away up in price in proportion with the advanced price of sugar. In other words, sugar wholesaled last August at about 11 cents, and it is now over 19 cents. I do not expect that honey will go six cents higher than it was last fall. But this is just my view, and it is no better than any other beekeeper's guess. Honestly, just at the present I am not thinking much about prices, being much more concerned about the prospect of getting any honey to sell at any price, if the drouth lasts much longer.

Condition of Bees.

Generally speaking, bees are not in nearly as good shape as people expected they would be at this time, judging by early spring conditions. Some exceptions, of course, but many apiaries are in none too good shape to take advantage of a flow if it should come.

Extracted Honey

(Continued from page 197)

six ten-pound pails, and the sixty-pound tins in single and double cases.

The filling of glass jars for the grocery trade is somewhat of an occupation in itself. The honey should be heated to 120 or 130 degrees Fahr. and held there for two hours at least, and afterwards sealed, while hot, to prevent granulation after bottling. If bottled properly, it should remain liquid for months. An attractive label often sells a jar of honey, and they should always be used. Advertising pays in the honey business.

United States Honeybee Report, May 1, 1920

State.	Winter losses of colonies.			Number of working colonies compared with May 1, last year	Condition of colonies compared with normal health and strength on May 1.			Condition of honey plants compared with normal on May 1.		
	1919-20	1918-19	4-year average 1914-17		1920	1919	5-year average 1914-18	1920	1919	5-year average 1914-18
Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Maine.....	25	6	11	80	84	97	93	91	95	95
N. Hampshire	24	7	17	95	81	96	95	73	88	97
Vermont.....	31	5	13	83	75	105	95	92	98	98
Massachusetts	31	7	22	90	84	107	89	90	100	92
Rhode Island	20	5	13	85	78	105	96	100	100	92
Connecticut...	39	4	19	70	70	100	90	90	99	94
New York.....	16	5	16	90	82	100	91	93	96	95
New Jersey...	21	6	18	90	80	101	90	90	95	93
Pennsylvania..	22	6	21	90	84	108	89	90	98	95
Delaware.....	32	2	17	75	60	98	94	80	90	94
Maryland.....	13	5	19	100	86	100	90	95	95	92
Virginia.....	8	6	20	115	94	103	89	91	97	90
West Virginia.	15	5	15	96	97	102	93	90	98	92
N. Carolina...	7	9	14	97	87	100	93	94	99	92
South Carolina	16	10	12	88	85	102	94	80	97	91
Georgia.....	11	7	8	98	83	98	94	81	98	90
Florida.....	5	5	7	95	89	98	94	81	90	87
Ohio.....	19	8	19	85	72	104	87	86	95	94
Indiana.....	12	5	16	95	79	105	91	75	98	96
Illinois.....	13	9	12	95	86	96	91	84	90	91
Michigan.....	24	8	15	66	68	101	90	73	87	94
Wisconsin.....	21	17	11	95	78	91	96	90	92	91
Minnesota.....	26	16	13	90	80	90	96	89	93	94
Iowa.....	13	12	13	110	88	95	93	91	97	90
Montana.....	7	13	17	100	90	85	90	93	81	90
North Dakota	..	..	6	..	..	..	100	..	..	97
South Dakota	15	6	13	90	85	98	95	84	87	92
Nebraska.....	19	21	16	95	86	89	94	84	94	91
Kansas.....	7	19	10	100	92	90	91	72	95	91
Kentucky.....	21	7	17	88	73	102	91	70	96	91
Tennessee.....	10	4	15	92	87	107	90	88	100	89
Alabama.....	16	9	11	90	73	100	93	72	92	90
Mississippi...	19	9	11	87	81	96	93	81	96	94
Louisiana.....	..	2	9	100	100	102	94	100	101	91
Texas.....	12	9	11	120	90	99	93	84	104	84
Oklahoma.....	12	8	12	93	79	100	93	61	101	87
Arkansas.....	24	12	16	92	70	88	90	75	93	88
Montana.....	24	21	21	100	93	100	97	82	92	96
Wyoming.....	18	5	13	104	87	115	102	80	100	101
Colorado.....	6	18	11	112	92	91	98	88	98	97
North Mexico	3	8	8	110	100	99	97	81	115	91
Arizona.....	8	10	5	100	79	105	99	85	98	94
Utah.....	13	9	14	100	84	98	98	80	99	97
Nevada.....	..	14	7	..	..	95	92	..	100	95
Idaho.....	9	10	17	99	81	97	97	70	98	93
Washington...	17	8	11	87	80	95	96	84	92	94
Oregon.....	31	8	13	90	89	93	95	81	93	93
California....	11	11	9	100	80	83	94	89	83	95
U. S.	14.1	9.4	13.2	98.1	83.9	96.8	92.6	85.9	94.6	91.4

NOW TURN TO PAGES
201, 202, 203, 204, 205, 212

Birds in Fruit Orchards

Three common birds are a nuisance, if not a real pest, in the fruit orchards of the Niagara District, if the fruit growers who condemn them know what they are talking about—and who should know better? Many growers were consulted about birds by the editor of *THE CANADIAN HORTICULTURIST* during a trip through that district last month. The robin, blackbird and cedar waxwing, or "cherry bird," were considered, by nearly every man interviewed, undesirable inhabitants of the orchard, to say the least.

In the orchards of P. H. Wismer, Jordan Station, 105 species of birds were identified last year by Mr. Wismer's son, Philip, who is an enthusiastic bird student. He found 56 robins' nests last year. Although Mr. Wismer and his son are bird lovers, Mr. Wismer said that the robin sometimes does great damage to cherries and other fruits. He thought that the robin was not only becoming more plentiful in any one district, but spreading over wider fruit territory. "The cedar waxwing," said Mr. Wismer, "is even worse as a pest in orchards than the robin. It takes a mouthful, and goes from fruit to fruit."

A number of other growers also spoke of the great injury done by the waxwing. F. G. H. Pattison, Winona, among others, thought this bird a real pest. He was not so hard on the robin; he contended that they could be kept away from cherry trees by shooting a few and hanging the carcasses in the branches. Mr. Pattison was, however, strongly in favor of drastic action being taken against the blackbird, which was far worse than either the robin or the waxwing on cherries and other fruits.

Lt.-Col. H. L. Roberts, Grimsby, considered robins a veritable plague on Delaware

grapes; they pick two or three berries on each bunch, and that spoils these bunches for sale. He did not have much trouble with robins on cherries, because he happened to have an old tree of soft cherries which he never picked, and which the robins preferred. C. C. Pettit, Fruitland, also referred to the damage done by birds to Delaware grapes. R. H. Dewar, Fruitland, considered the robin "deadly" on Delaware. "They ruin the crop," he said. He did not find the robin a serious pest on cherries; crows and waxwings were worse.

Various growers were asked if they thought it practicable to plant extra fruits, such as a few early cherry trees, for the use of the birds. Their opinion was that land worth \$500 to \$1,000 an acre was too expensive for planting and growing "free lunches," as one man expressed it.

Space forbids further reports of growers' opinions on this matter. It is worth noting, however, that all growers expressed regret over the fact that they were compelled to condemn the three birds mentioned. By nature, they were bird lovers, and would not judge with disapproval without reason.—A. B. C.

A report from St. Thomas, Ont., last month stated that Major George Stacey, late Commander of A Company, 91st Battalion, was visiting Ontario from England for the purpose of forming a co-operative packing and shipping company similar to the big orange and lemon companies in California, this company to do business through a fruit exchange that it is proposed to establish in London, England. Major Stacey stated that there is an unlimited demand for Ontario fruit in England if it is packed properly.

Grape Growers' Meetings

The Niagara District Grape Growers' Association is holding an important series of meetings at 11 different places between Stoney Creek and St. David's. Meetings were held at Jordan on June 28; Peachland, June 30; Beamsville, June 30. The places and dates to follow are:—

Vineland	July 2.
Union School (Louth)	July 2.
Grimsby	July 5.
Homer	July 5.
Winona	July 7.
Virgil	July 7.
Stoney Creek	July 9.
St. David's	July 9.

Among the speakers at these meetings are T. J. Mahoney, Lt.-Col. H. P. Van Wagner, George Millen, Erland Lee, James Bertram, all of Saltfleet Township; James A. Livingston, Sylvester Russ, North Grimsby; Charles Haynes, Peachland; R. W. Gregory, E. C. Cole, G. A. Welstead, A. K. Clemens, St. Catharines; Wm. Armstrong, F. A. J. Shepherd, H. Usher, J. Chrysler, Lew Colard, Niagara. These meetings will be reported in the next issue of *The Canadian Horticulturist*.

Secretary Clemens reports that the grape survey has been completed. The totals for last year are 4,500 acres, with a yield of 10,000 tons, roughly 1,000 carloads.

Grape growers of the Niagara peninsula expect to reap \$100 a ton wholesale for the 1920 crop. The crop this year is not as good as last, but is, on the average, one that the growers are well pleased with. Very few contracts have yet been made.

SHIP US YOUR HONEY

We'll Pay You the Highest Prices For It

We are in the market for any quantity of honey you have for sale, and will buy in barrels as well as sixty, five and two and one-half pound tins.

We can also supply you with five and two and one-half pound lithographed tins and sixty pound pails in crates ready for re-shipping.

You'll find doing business with us both profitable and pleasant.

The BOWES COMPANY, Ltd.
70-76 Front St. East - - TORONTO, CAN.

Leather Colored ITALIAN QUEENS

Send us your orders, be they large or small, we are now mailing Queens promptly.

July, August,
September.

Untested	\$1.40
Tested	2.00
Selected Tested	2.50

On lots of 25-50 Queens 5% discount off above prices.

Breeding Queens.. \$6.00 each nett

If you wish to purchase more than fifty Queens write for quotation and state when you want them.

If you will be requiring a large number of Queens for August or early September and want them for a particular time let us hear from you NOW.

F. W. Jones & Son
BEDFORD - - QUEBEC

QUALITY QUEENS!

June and July Delivery.
GUARANTEE

Safe delivery, pure mating, bred under best possible condition, and from selected stock only. Small and imperfect queens destroyed. Price \$1.25 each.

E. V. TILLSON - Tillsonburg, Ontario

Bristol as a Fruit Port

H. C. Williams, Bristol, England.

The steamship companies are fully alive to the geographical advantages of Bristol for reaching the huge industrial population of South Wales as well as the Midlands and Southwest. The fact that Elders & Fyffes, the West Indian banana shippers, have made Bristol their chief port, speaks volumes for its position as a port for fruit distribution. The Spaniards, too, have used the port for years past disposing of, roughly, a cargo of oranges, etc., a week, but latterly this trade has grown so that larger steamers than ever before are required for the traffic.

Just these two facts prove that there is a healthy fruit consumption in the Bristol distributive area, and the question that will interest the readers of THE CANADIAN HORTICULTURIST is: "What do all these consumers do with regard to apples? Are they content with bananas and oranges only?" Oh, No! They are already cognizant of the fine flavor and appearance of British Columbian Jonathans, the Oregon Newtowns, and the useful Nova Scotian Baldwins, but these have to be purchased from Covent Garden, London, or from Liverpool, and, of course, the trade is hampered considerably by the fruit arriving in Bristol second hand, and by a circuitous route, which involves much handling and results in expense, delay, broken packages, pilferage and general deterioration.

The trade cannot develop as it ought, so long as the present uneconomical method lasts of carting fruit from the steamer across London, to be dumped in Covent Garden to await buyers from the West and then to be again carted across London to be railed to Bristol for further distribution.

The fact that merchants have been able to buy in London and sell in Bristol shows that the market value in Bristol must be considerably higher than London to make the transaction profitable for the Bristol merchant. Now that the steamship companies are further developing the service from Canada to Bristol, the cute Canadian

Three Banded and Golden Italian Queens



Untested—\$1.00 each; 6 for \$5.50; 12 for \$10.00.

Select Untested—\$1.25 each, straight.

Send for Price List. Cash with Order.

W. R. STIRLING

Queen Breeder. RIDGETOWN, ONT.

QUEENS of MOORE'S STRAIN of ITALIANS

Produce Workers
That fill the super quick
With honey nice and thick

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

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

Safe arrival and satisfaction guaranteed.
Circular free.

J. P. MOORE, Queen Breeder
ROUTE 1 MORGAN, KY.

Hand - Moore QUEENS

How many of you, let me see, have tested out the Hand-Moore bee? Our bees get honey by the ton, and honey's what brings in the mon'. So if you want your honest share, and are not content with just the tare, buy Hand-Moore Queens, that's what I say, and do it, yes, and right away. Untested only \$1.50 each; 6, \$8.00; 12, \$15.00.

W. A. LATSHAW CO.
Clarion, Mich., - U.S.A.



Mr. Beekeeper! Which Do You Prefer?

Black Queens

that are so good at playing hide and seek when you want to find them in the wing-clipping season.

Old Queens

that stop egg-laying in the fall of the year so early that you have principally aged bees to go into the winter with, the result being SPRING DWINDLING.

Black Bees

that are excitable and run out the entrance of the hive as soon as you open the cover; that sting at every opportunity; and that lay right down on the job and die when EUROPEAN FOUL BROOD attacks them.

Italian Queens

that stick right on the comb and even continue laying eggs when the frame is lifted, and are so readily seen when looking for her in clipping season.

Young Italian Queens

that continue egg laying until quite late in the fall, even though there is no honey flow, giving you a good bunch of fresh young bees to go into the winter, bees that have sufficient vitality when spring comes to nurse the new brood and gather EARLY pollen, while the queen is on the job EARLY in the spring ensuring a GOOD STRONG COLONY of bees for the first honey.

Italian Bees

that stay on the combs and can be handled with a minimum of smoke or discomfort because of stings, and that WHEN ATTACKED BY EUROPEAN FOUL BROOD ARE BETTER ABLE TO RESIST IT THAN ANY OTHER KNOWN BREED.

We specialize in Canadian bred Italian Queens—For sale at fair prices.

Untested	1 for \$1.50	12 for \$17.00	50 for \$70.00
Select Untested...	1 for 1.75	12 for 20.00	50 for 80.00
Tested Queens—\$5.00 each.			

We will also offer for sale, one hundred colonies of bees in 10 fr. Langstroth hives at \$20.00 each F.O.B. apiary. Delivery or shipment after August 1st, 1920. Cartage \$2.50 extra if you wish them delivered F.O.B. express trains at Sarnia, G. T. R. or P. M. Ry.

RUMFORD & FRETZ

Box 193

SARNIA, ONTARIO

packer will realize his opportunity of tapping the market of the West and reaping the benefit of the higher prices.

The writer believes this proposition to be a perfectly sound one. British Columbian apples are greatly appreciated by the high-class trade of Bristol, while Nova Scotian barrels are assured a good outlet in the industrial centres of South Wales.

Fruit Meetings Planned

It is announced that J. Forsythe Smith, with headquarters at Liverpool, is paying a visit to Canada and will address meetings. The Fruit Branch, Ottawa, expects to hold meetings at several points throughout the fruit growing provinces where growers and shippers are especially interested in the export markets.

Apple men will appreciate this opportunity of receiving first hand information as to market conditions in the United Kingdom and what the future holds for them. Dates and places for the holding of these meetings will be published as soon as definite arrangements have been made.

In a discussion in the House of Commons, Ottawa, in June, on the Inspection and Scale Act, Hon. Mr. Tolmie, Minister of Agriculture, pointed out that this Act was designed to control entirely the nature of packages containing fruit for sale in Canada; but, in the event of an exporter showing to the department that it is necessary to have a special form of package to meet the requirements of some market to which Canada wishes to export, then, if his claim has merit, permission will be granted to him to ship in a special package to meet the requirements of the market in which he wishes to sell.

Georgian Bay Cherries

Smart Bros., Limited, Collingwood, Ont.

The Montmorency cherry is the variety best adapted for the Georgian Bay district. It is the only variety which we now grow extensively. The fruit is of good quality and a favorite for canning.

The cherries are picked in 11-quart baskets and sold locally as well as expressed in large quantities to various towns. We ship as far as Sault Ste. Marie, Sudbury and Timmins, always being careful to have the fruit picked the day of shipping. This variety of cherry, picked and shipped in this way, gives good satisfaction.

The crop of 1919 was large. The 1920 crop will in all probability be medium.

Cherry Blossoms

Some years ago the Emperor of Japan gave the government of the United States several hundred blooming cherry trees. These were planted in Washington in masses. The beauty of these trees in full bloom at the beginning of May this year attracted the attention of every visitor to the U. S. capital. No rose garden or tulip bed could compete with the grand effect of the cherry trees around the drive known as the Speedway.

The sight aroused thoughts of the possibilities of developing our own wild cherry trees in the same direction. It might pay some one with patience and a little arboricultural knowledge to experiment with our common pine black and choke-cherry blooms.—U. S. Exchange.

If we had standard and graded potatoes for commercial purposes we would increase our markets.—Henry Broughton, Sarnia.

OUTAPIARIES

By M. G. Dadant

This book is designed for the beekeeper who intends or has already begun to practise beekeeping in an extensive manner. The Dadant family have kept bees in the same general location for three generations, ever increasing their number of outyards.

The book deals with the business of beekeeping on a large scale and describes methods practised by some of the largest modern beekeepers. The fundamentals of successful management of out-apiaries are outlined, and special chapters devoted to such subjects as honey-houses, equipment, locations, etc.

125 pages, 50 illustrations, cloth bound. Price, \$1.00.

Special combination with the American Bee Journal, one year, only \$1.90, postpaid.

AMERICAN BEE JOURNAL
Hamilton - Illinois

MOTT'S Northern Bred Italian Queens

I have breeding mothers in the south for April and May queens. Plans "How to Introduce Queens: Increase," 25c.
For summer and winter laying birds, try a setting of my Golden Campines.

E. E. MOTT.
Glenwood Mich.

WE BUY HONEY

Write us stating what quantity you have to offer and how it is packed.

21-2 and 5 lb. lithographed tins and 60 lb. tins preferred

The Whyte Packing Co., Ltd.
66 Front St. E. - Toronto, Ont



Root Queens



Our queens are bred by as skillful and experienced queen-breeders as can be found in the United States. There are very few places where queens are reared under as favorable conditions as in our own Ohio queen-rearing yards in midsummer. The strain is proved and of the highest quality. We guarantee that better queens than ours cannot be bought anywhere.

OUR JULY PRICES.

1 Untested Queen	\$ 2.00	48 Untested Queens	\$76.80
6 " "	11.40	100 " "	and upwards
12 " "	21.60		Special prices quoted.
24 Untested Queens	40.80		

Inquiries as to tested or breeding queens invited. The demand for these often exceeds our supply. So order well in advance.

Write or wire when deliveries are wanted. We are producing in large quantities this season, and with advanced information as to the wants of our customers we shall at times be able to quote unusually attractive prices on large quantities. Make your plans and order NOW for your August needs.



The
A. I. Root Company
MEDINA - OHIO



BOZZALLA LIGURIAN QUEENS

Introduce fresh blood into your apiaries. Selected tested Italian queens mailed direct from ENRICO BOZZALLA'S Queen Rearing Apiaries in Italy, to you for \$3.50 each. Safe arrival guaranteed. Remit to Sole Agent

H. M. STICH

Riccartsbar Avenue.

Paisley, Scotland.

I. F. MILLER'S STRAIN

Italian Queen Bees for sale. Northern Bred for business from my best SUPERIOR BREEDERS, gentle, roll honey in, hardy, winter well, not inclined to swarm, three banded. Queens a specialty; twenty-six years' breeding experience. Satisfaction guaranteed. Safe arrival in U.S. and Canada.

Unt., \$1.40; 3, \$3.75; 6, \$7.00; 12, \$13.00.

Sel. unt., \$1.65; 3, \$4.50; 6, \$8.50; 12, \$16.00.

I. F. MILLER

BROOKVILLE, PA.

R.R. NO. 2.

Why You Should Join the Ontario Beekeepers' Association

Because your \$1.50 membership entitles you to:

1. Membership in both the Provincial and County Beekeepers' Association.
2. THE BEEKEEPER for one year.
3. The Association Annual Honey Crop Report.
4. The Annual Provincial Convention and Report.
5. Italian Queens at Co-operative Prices.
6. Free Service and Advice on Any Matters Pertaining to Beekeeping.

Send your \$1.50 dues to the Secretary-Treasurer of the Ontario Beekeepers' Association, O.A.C., Guelph, Ontario.

F. ERIC MILLEN.

Soil Fertility Conference

"I make the statement, without fear of contradiction, that food production is the greatest problem of the world to-day. Soil fertility is fundamental to food production. It lies at the foundation of success in all branches of agriculture." These statements were made by Hon. Manning Doherty, Minister of Agriculture, at the second annual conference of the Canadian Fertilizer Association at the O. A. C., Guelph, last month. Over two hundred persons were in attendance. The conference throughout was a great success.

An address of special interest to horticulturists was given by A. H. McLennan, Vegetable Specialist, Department of Agriculture, Toronto, on "The Vegetable Growers' Problems in Soil Fertility" Mr. McLennan reviewed the utter change of conditions on market garden farms due to increased price of labor, increasing market for garden material, and change of conditions with reference to the maintenance of the high state of fertility necessary for the successful pursuit of this important industry. With the incoming of gasoline power, there is necessarily a great decrease in the amount of stock manure obtainable. This necessitates the growing of green crops as cover crops, and supplementing the plant material so gathered by nitrogen, phosphoric acid and potash in the shape of fertilizers. It is doubtful if green manure will ever take the place completely of manure in the growing of vegetable crops, but where 75 loads of manure to the acre have been applied in the past, it is quite possible that equally good results could be obtained by growing green manure and the use of fertilizers. One of the best gardeners in the Province used from 50 to 60 team loads of manure and from 500 to 1,000 lbs. of high grade fertilizer to the acre. This man believed in thorough culti-

vation and care of his soil. He is making a decided success in his business.

The fertilizer industry must remember that in serving the needs of the market gardener, they are dealing with an entirely different individual than the man on the general farm. Speaking generally, the number of crops and the characteristic requirements of the crop on the general farm are limited. The market garden takes in an immensely greater number of crops with variable plant food requirements; also from the market garden crops there must be immensely higher yields, which mean greatly increased provision of plant food. "Through the work of the Department, we have been trying, during the past two years, to work out systems of fertilization for the leading garden crops, with which systems we contemplate the upkeep of the humus of the soil and the addition of plant food which will lead to greatest profit," said the speaker. Fertilizers of special composition for such crops as cucumbers, celery, corn, cabbage, cauliflower, onions and potatoes are being tested, and the men conducting these tests are taking great interest in the work.

Interesting and important addresses were also given by many other speakers, including Dr. H. O. Buchman, of Cornell University, Ithaca, N. Y.; Prof. R. Harcourt, O.A.C., Guelph, and Henry G. Bell, Toronto, Director of the Soil and Crop Improvement Bureau, Toronto, and chairman of the conference. These addresses will be reported later.

Horticultural Exhibition

The directors of the Ontario Horticultural Exhibit met in Toronto last month and decided to continue the show this fall, in order that there may be no lapse before the hold-

HONEY WANTED

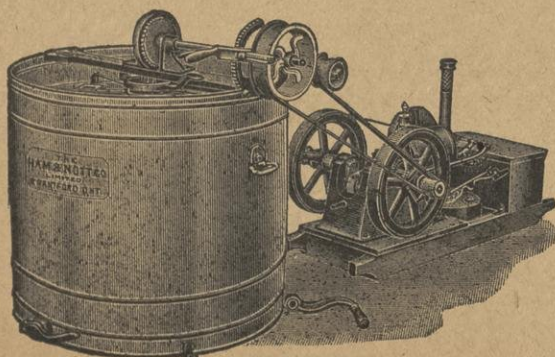
When you are ready to sell your HONEY send US a sample. We are always buyers.

FLAVELLES LIMITED

Lindsay

Ontario

POWER EXTRACTORS



Cut gears or friction drive, with or without engine.

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

The **Ham Brothers Co.**
Limited
Brantford - Ontario

Better Your Income

If you want to get more money than you are now earning in salary or wages, and are willing to work for it in your spare time, we have a sideline for you that is worth undertaking. You can

Make Extra Money

by acting as our subscription representative in your locality. The Canadian Horticulturist appeals because

1. The Subscription Price Is Low.
2. The Magazine Is Worth the Money.
3. It Is Alone in Its Field.
4. Nearly Everyone Grows Fruits or Flowers or Vegetables.

Fill in the blank form and mail this advertisement to The Canadian Horticulturist, Peterboro, Ont. Or mention seeing this notice and send name and address in a letter.

Name

Address

P. O.

ing of the prospective big exhibitions in connection with the Royal Agricultural Winter Fair in 1921 and subsequent years. The Ontario Horticultural Exhibition will be held, it is expected, in a hall somewhere in the heart of the city, rather than out at the National Exhibition grounds. It is proposed to hold a smaller show than usual, but one that will be selective and high-class in every department.

For Sale

UNTESTED QUEENS

CHOICE ITALIANS AT \$2.00 EACH

Prompt delivery or money refunded on request.

JOHN A. MCKINNON

QUEEN BREEDER

ST. EUGENE - ONTARIO

Beekeepers' Supplies

of all kinds.

Double walled packed hives, Standard hives, Frames, Extractors, Honey Tins. Everything for the beekeeper.

THE

Canadian Bee Supply & Honey Co.
LIMITED

73 JARVIS ST., - TORONTO, ONT.

MARITIME PROVINCES

Notes From Nova Scotia

Eunice Buchanan, Berwick, N. S.

Berwick celebrated June 11th as "Clean-up Day." A prize of \$10 is to be awarded at the end of the season to the householder who makes the greatest improvement to his lawn and street lot. If this idea spreads to other towns, it will do much to beautify the country.

Many orchardists have been disappointed in getting nitrate of soda, owing to railway strikes in New York, so that dealers have cancelled orders. What little could be bought went up to \$110 a ton. The Cranberry growers of Auburn mix nitrate of soda with 12 parts of sand, and sprinkle this mixture over the bogs in May or June. The nitrate kills the fire moss, which has a tendency to thrust the cranberry roots out of the soil; besides this, the fertilizer makes the berries earlier and larger.

People with foresight bought barrels early in the year. Before the blossoms had set in the orchards, many barrellmakers had refused to take more orders, owing to the scarcity of labor, and the high price of stock. In fitted factories, coopers ask 12 cents each for making barrels, more when working for a grower in temporary quarters. In June barrels had risen to 75 cents each, with talk of them rising to \$1.50, or \$1.25, in fall, if the demand is large. Some orchardists, owing to the high cost of running expenses, are not troubling about barrels or spraying, with the hope of selling their fruit to the evaporators. With sugar rationed at

HONEY!

White, Amber, Dark,
Bought and sold.

Get our quotation on your
crop, or

Let us supply your shortage.

Are you buying or selling an
apiary?

We quote on complete outfit
Our estimates for 1921 Spring
delivery will interest you.

WEIR BROS.

60 Chester Ave.

Toronto, Ont.

North Carolina Bred Italian Queens
of the Dr. C. C. Miller strain of three-band Italian bees. Gentle and good honey gatherers. From May 1st until July 1st. Untested—\$1.50 each; \$15.00 per doz. Tested—\$2.25 each. Sel. Tested—\$3.00 each. Safe arrival and satisfaction guaranteed.
L. PARKER.
R. F. D. No. 2. Benson, N.C.

Honey

We are in the market
to buy your **Honey**
in large or small lots.
Any quantity handled.

Excellent Prices Offered

Wagstaffe, Limited

Hamilton

- Ontario

T. J. POUPART

REGISTERED T.J.P. TRADE MARK

COVENT GARDEN

— AND —

SPITALFIELDS MARKETS

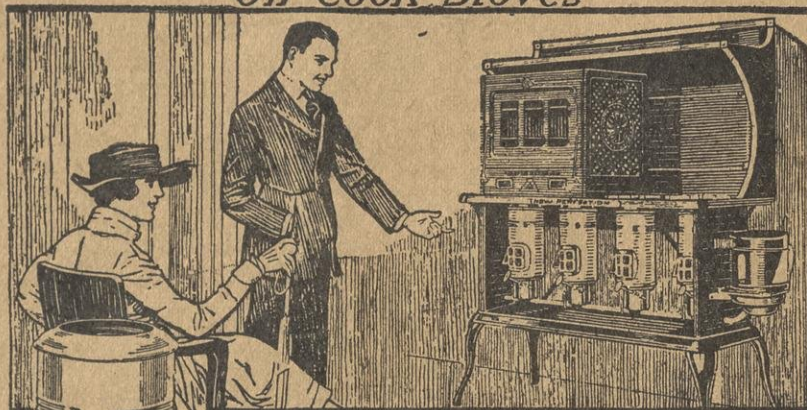
LONDON

The Largest Firm
of Fruit Salesmen
in Great Britain

SAM BIRCH, representing T.J.P., will be in
Canada during July and August.

NEW PERFECTION

Oil Cook Stoves



Here's The Reason

—the Long Blue Chimney which supplies cheap, instant, speedy, clean cooking heat whenever needed. It has won for the New Perfection Oil Cook Stove the appreciation of hundreds of thousands of housewives.

With the Long Blue New Perfection Chimney, every drop of fuel goes into cooking heat—not into overheating the kitchen. The flame is applied directly under the utensils. There is no smoke or odors and pots and pans are not blackened. High, medium or low, the flame is always visible. It can be adjusted to give the heat desired and stays set.

The Long Blue Chimney which supplies the clean, white-tipped cooking flame.

A New Perfection Oil Cook Stove and a New Perfection Oven and Warming Cabinet form the best combination for year round cooking. *The New Perfection gives you more satisfaction in the kitchen and more time out of it.*

Sold by good dealers everywhere. Ask for demonstration of the Long Blue Chimney or write for New Perfection Booklet.

Made in Canada

THE PERFECTION STOVE COMPANY
LIMITED

HOME OFFICE AND FACTORY

SARNIA - - - ONTARIO

a large price in England, sour apples will not have so good a chance as others.

The blossom season was a long one. Early apples opened about May 24, much later than some years, but an extra early Gravenstein tree was in bloom at Mr. Millet's, Martock, near Windsor, on May 10. June 6 was "Blossom Sunday." Extra provision was made by the railway for the week-end traffic to the Annapolis Valley. Forty auto parties went to Kentville from Halifax, but drenching rains prevented much sight-seeing. In Berwick vicinity, the blossoms were very full, and the fruit is setting well, but reports from Granville Ferry and other places say that, while cherries were full of blossoms, lots of apples had none.

During the dry spell we had some very heavy dews, and the dusting machines got out at daybreak, but several orchardists had to omit the first dusting, owing to the non-arrival of their newly-ordered machines. Thirty-one carloads of spraying material were ordered for the Valley.

Dry weather and high-priced labor prevented some growers from planting more apple trees. Late varieties are not popular; neither are those which come into bearing late, such as Spy, Stark, and King, but Duchess, Wagener and Crimson Beauty have been much in demand, at good prices.

On the last of May, frost singed some apple blossoms but not much damage was done. However, in some low spots the severe winter completely killed some of the buds.

In the potato growing contest of Western Nova Scotia, Meteghan and neighborhood sent in 24 entries in one week. The object of the contest is to encourage the spraying of potatoes for the prevention of blight and rot.

In Digby county, where the growers sprayed potatoes every eight days and so kept vines green until digging, the yield in 1919 was 550 to 600 bushels an acre.

Strawberry Exchange

P. L. Morse, Sec'y.-Treas., Berwick, N.S.

The membership of the Berwick Strawberry Exchange is small as yet owing to the fact that this is a new movement in this section. As we are simply trying it for an experiment this year, we are not trying to increase our membership beyond those who ship from this station.

If the movement works out all right, it is quite likely that it will be expanded in all practicable directions. One feature of our business is that we are grading the strawberries into two grades and also averaging the price each day.

Fruit and Vegetables Solicited

We Get Best Prices

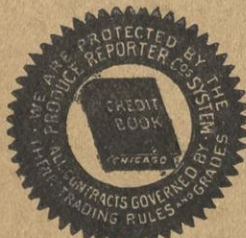
OUR facilities enable us to realize top prices at all times for your fruit, vegetables or general produce. Aside from our large connection on the Toronto Market, we have established branch warehouses with competent men in charge at Sudbury, North Bay, Cobalt and Timmins. In time of congestion on the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

Branch Warehouses:
Sudbury, North Bay,
Cobalt and Timmins.

PETERS, DUNCAN LIMITED
88 Front St. East, Toronto



References: The
Bank of Nova Scotia,
King and Victoria
Branch, and Com-
mercial Agencies.



**We Solicit Your
Consignment**

Send for
Shipping Stamp

NIAGARA PENINSULA

NEWS AND VIEWS
F. G. H. Pattison, Winona

Very dry conditions prevailed during the latter part of May and early part of June, and it seemed as though the strawberry crop was going to be severely affected by the drouth, but on June 5 a steady rain afforded relief, and toward the middle of June copious showers changed the situation entirely. As I write (June 21), the strawberry crop is getting into full swing, and promises to be a heavy one.

Raspberries and currants have been greatly benefited and tree fruits are looking well. Both sweet and sour cherries are likely to be a good crop, although not as heavy as was at one time anticipated. Plums have set well in most orchards, but the curculio has been very troublesome. Pears are not likely to be more than an average crop, but apples and peaches have set well and are likely to be a good crop. Grape-vines have suffered from winter-killing in a good many vineyards, but otherwise never looked better. Good judges consider that the crop is likely to be almost up to that of last season, which was one of the best crops the district ever had.

Dr. Clarke's celebrated tulip garden near Grimsby attracted a great many visitors this spring, who enjoyed to the full its wonderful display of gorgeous colors. Never have its beauties been displayed to better advantage than this season.

A very heavy acreage of tomatoes has been planted in the fruit belt this season, and although the cool weather and drouth destroyed some, and the cutworm destroyed a good many, the bulk of the crop survived,

and the recent favorable weather has brought it along at a great rate. The present outlook is for a heavy crop.

A report from Vineland says that the fruit growers there expect a heavy crop of fruit this season. At present, C. Fritz has an excellent crop of tomatoes in his greenhouse, from which he is making heavy shipments.

Discouraging Conditions.

Although present indications are that this district will have a better crop of fruit than for some years, both fruit growers and canners are having their troubles. Fruit, it is true, is abundant; but with a shortage of sugar, baskets, labor, cans, and fuel, how can the crop be absorbed without loss?

During the war the fruit industry suffered considerably, owing to the need of greater production of grain and meat. Last season, however, there was a revival to some extent in fruit production, and the canning factories were able to obtain almost a normal production of canned fruits. Housewives were also able to put up a fair amount of preserves for the winter. Although the crop was not as large as in pre war times, and the prices were higher, the growers were able to reap a reasonable profit and the consumers to purchase a reasonable supply.

Baskets are almost unobtainable, owing both to a shortage of basket timber and also to the great shortage of labor for the mills. Labor in the fruit belt is harder to obtain than ever, owing to the high wages and short hours in the towns and cities. Even the supply of girl labor, which turned out pretty well during the war, is greatly reduced, and the question of getting the crop picked is a serious one.

Both the fruit growers and the housewives are worrying over the sugar situation; the one for fear the buying power of the towns

VAN'T HOF & BLOKKER BULB GROWERS AND EXPORTERS AKERSLOOT, HOLLAND

Import orders from Horticultural Societies, Park Commissions, Schools, School Boards, etc., solicited. Orders for fall delivery of tulips, hyacinths, etc., accepted up to July. Orders accepted to end of August, but early ordering urged.

Write—Canadian Office—
41 ALBANY AVE., TORONTO

SKINNER SYSTEM OF IRRIGATION

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

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

PERRY'S SEEDS

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

Deafness



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

Wilson Common-Sense Ear Drums

"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.

WILSON EAR DRUM CO., Incorporated
910 Inter-Southern Bldg. LOUISVILLE, KY.

CANADIAN NATIONAL EXHIBITION

Aug. 28 Toronto Sept. 11

"The Greatest Annual Event On Earth"

Where the Nation shows its best finished product of the Mine, Fisheries, Forest, Factory, Studio and Laboratory for Exhibition, Comparison, Instruction and Encouragement.

PAGEANTRY ON A MASSIVE SCALE -- INCOMPARABLE MUSIC

Fine Arts, Applied and Graphic Arts, International Photographic Salon.

DEMONSTRATION DAILY BY NORTH-WEST MOUNTED POLICE

Two days of Sensational Automobile Racing—
Mile-a-minute Motor Boats and Water
Sports—National Motor Show—
Electric Show.

America's Best Live Stock, Poultry, Tractor and Farm Machinery Displays — Horticultural Exhibition—Government Exhibits and Demonstrations

And a Score of Other Special Attractions

42nd Consecutive Year — 1,201,000 Visitors in 1919

STRONACH & SONS

33 Church Street

TORONTO
ONTARIO

Fruit, Produce and Commission Merchants

All shipments of Fruit and other Produce consigned to us receive our personal attention. Competent salesmen in Fruit Market at all times. Advice Card mailed each evening. Shipping Stamps mailed on request.

Your Shipment Solicited

LADDERS

for Fruit Pickers

If you want light, yet strong, well-made ladders, ladders that will stand the test of years, order the "Stratford," it will give you full service and satisfaction.

We manufacture extension, step and single ladders and invite correspondence from Farmers' Clubs and other associations. Manufacturers' prices quoted on orders for quantities.



Place orders at once to ensure prompt delivery

Send for Catalogue "E"

The STRATFORD MFG. CO.

STRATFORD LIMITED CANADA

and cities may be greatly reduced, and the other for fear the price of sugar may go so high as to prevent the doing up of any but a very small amount of home-canned fruits.

The canners, too, are facing a very awkward situation—dear and scarce sugar, dear and scarce coal, and a very serious shortage of cans. The latter is said to be the worst of the three from the canners' point of view. Not long ago the heads of fourteen large canning companies met in New York and decided to delay operations until sugar and coal could be more readily obtained.

Altogether, the situation at present does not look too favorable, but with a fair amount of fruit available at reasonable prices, housewives had better make up their minds to do up as much fruit as possible, notwithstanding the high price of sugar. For, what is going to take the place of home-canned fruit? Canned goods will necessarily be high, and all substitutes are proportionally likely to be quite as dear without giving the satisfaction that home-canned fruit does. Some consideration also is due the fruit growers, who are only just beginning to recover from the very hard situation they suffered from during the war.

The Grape Situation.

The grape growers of this district expect to reap \$100 a ton wholesale for the 1920 crop. According to the latest information,

the crop is not quite as good as last season, but is one that the growers are well pleased with. Red grapes are in some districts a failure, but the blue and white grapes look well.

President Welstead, of the Niagara Peninsula Grape Growers' Association, is of opinion that the demand will be quite as heavy as last year, and that the United States buyers will be just as keen for Canadian grapes as formerly. A few contracts have already been signed by growers to send their product across the line. Already the wine and grape juice factories have been sending out contracts to the local growers but few have yet been signed.

At an executive meeting of the Grape Growers' Association held at St. Catharines June 21, with President G. A. Welstead in the chair, it was decided to hold a series of eleven meetings from the Niagara River to Hamilton, commencing at Jordan on June 28, and closing July 10. The grape acreage in the district was estimated at 4,300 acres, and the yield at 10,000 tons. Last season 58 carloads of grapes were shipped to the United States at from \$65 to \$95 a ton. This amount of grapes going out of Canada greatly assisted the market at home. The U. S. buyers were greatly pleased with the quality of the grapes, and are going to be in the market for more this season. There will be four outside speakers at each meeting, besides local talent. No United States speakers have been secured. The price of grapes for this season will not be fixed until after the meetings have been held.

DEATH OF JOHN A. BRUCE.

John A. Bruce, of the firm of J. A. Bruce & Co., seedsmen, Hamilton, died on June 28, after a lengthy illness. He was born in Scotland, but came to Canada when quite young, and after a brief residence in Toronto, went to Hamilton, and engaged in the seed business in 1850. In 1875 he formed the company of J. A. Bruce & Co. He was a pioneer member of the Hamilton Horticultural Society.

Harry Koolbergen, Nurseryman, Boskoop, Holland

OFFERS FOR FALL DELIVERY

Apple Seedlings,
Pear Seedlings,
Quinces Seedlings,
Cherry Seedlings,
Rosa Canina,
Rosa Manetti,

Rosa Rugosa,
Roses, H. P. & H. T. varieties,
Hardy Rhododendrons,
Peonies, strong roots,
Evergreens, all sizes,
Buxus, Bushes and Pyramids,

Azalea, Mollis, Indica.

Sole Agent for Canada --- ARCH. P. MARSHALL --- Niagara Falls, Ont.

PLEASE ASK FOR PRICES.

THEY WILL INTEREST YOU

The Handy Hand Scuffler. Just A Few Left!



The Hand Scuffler in Use.

We have about 20 Handy Hand Scufflers left, of a large shipment obtained some time ago. These are not now being manufactured, and it is impossible to obtain a further supply. To dispose of the remainder we are making an especially low offer to our readers.

The Handy Hand Scuffler is an ideal implement for garden weeding and mulching. It is made of the best saw steel, and has four cutting edges, on both sides and ends. Laying flat on the ground, a slight pressure either in pushing or pulling only is required. It can be used endwise to chop tough roots. It is especially adapted for cleaning around bushes and plants. Those who have used them have found them wonderfully efficient. Special price, 50c each. Express collect.

SPECIAL OFFER.

One Hand Scuffler—(1) With one new yearly subscription to The Canadian Horticulturist (Fruit and Floral Editions only), for 75c. Express collect.

(2) With one new and one renewal subscription to The Canadian Horticulturist (Fruit and Floral Editions only) for \$1.00 Express collect.

The Horticultural Publishing Company, Limited

PETERBORO

ONTARIO

The Fruit & Produce Market

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

H. J. ASH

44-46 Church St. - Toronto, Ont.

CONSIGNMENTS OF FRUIT AND
VEGETABLES SOLICITED.

Shipping Stamps furnished on request.

DAWSON-ELLIOTT CO.

32 West Market St., Toronto, Ont.

Wholesale Fruit and Produce Consignments Solicited.

PETERS, DUNCAN Limited

88 Front St. E., Toronto, Ont.

See advertisement on another page.

THE HORTICULTURAL DIGEST

Canned Fruit Prices.—Sugar is the dominating factor in canned fruits, and, although they are very high in price this year, new prices will be considerably advanced.—*Winnipeg and Western Grocer.*

Will Ship Apples in Bulk.—Owing to the extreme high price of boxes for the coming season a large number of the Watsonville, Cal., apple packers have decided to ship a part of the coming season's crop in bulk, loose in the cars.—*Fruit Trade Journal.*

Prices for Nursery Stock.—It is not likely that they will ever again reach the old low level. Not only does labor form such a large part of the cost of production, but it is also impossible to use machinery to offset the increasing cost of labor as has been done in so many other lines of industry.—*Farm and Fireside.*

Chrysanthemums Named After Battles.—Among the new types of 'mums shown at the Exposition of Flowers, Paris, and which are so conspicuous in the French cemeteries, was a magnificent white variety named Hill 304 and a blood-red one of quite an exceptional color named Verdun. More common yellow and white blossoms recalled the Yser and Champagne.—*The Canadian Florist.*

Cherries and Birds.—Every year the question comes up: "How shall I save my cherries from the birds?" It is a hard question to answer, too. It helps to hang pieces of looking glass or strips of bright tin from the branches, and any noise creating devices will keep the birds away for a time. After all, though, nothing has been found more effectual than throwing clods of earth into the trees every time the birds collect there. It is a simple plan and won't save all the cherries, but it helps the owner to get a few for his own use.—*"The Old Gardener," in Toronto Star Weekly.*

Horses Killed by Sprays.—A great deal of sickness that has developed during the winter throughout the northwest among horses and cattle in orchard districts through the eating of hay that has been taken from orchards that had been sprayed with arsenate of lead is causing experiments and investigations to be made by experts at the various agricultural colleges. The matter was brought to a head by the death of two horses at Hood River. . . . The course being recommended at present by these experts is for the orchardists to exercise greater care in seeing that spray apparatus is in good condition, and to avoid allowing any large amount of spray to be deposited on intercrops that are being grown in orchards.—*Better Fruit.*

Shakespeare's Garden.—The appeal of the Trustees and Guardians of Shakespeare's Birth-place, etc., for gifts of Elizabethan plants and flowers, wherewith to stock his "Great Garden" at Stratford-upon-Avon, has had a very gratifying response. The King and Queen, Queen Alexandra and the Prince of Wales, have graciously interested themselves in the project, and have given practical support by valuable contributions of old-fashioned roses and other flowers. From the gardens of all the Royal Palaces which were known to Shakespeare, ample parcels of the same sorts of flowers as grew in them when he visited them, have been forwarded to Stratford-upon-Avon.—*The Gardeners' Chronicle (London).*

Carhartt Overalls



I FIGURE that when a man wears overalls he wants to be able to bend, twist or stoop freely without being conscious of them. So I purposely make my Carhartt's extra roomy, and double stitch every seam. The suspender buttons stick as if they were imbedded in concrete. Interlacing suspenders give you shoulder ease you never knew before—and they stay together in the wash, while the first-grade denim cloth I use has a staunch durability that ensures a surprising length of service.

Hamilton Carhartt
President

HAMILTON CARHARTT
COTTON MILLS, Limited
Toronto Montreal
Winnipeg Vancouver
Manufacturers of Men's Over-
alls and Work Gloves and
Carhartt Allovers for
Men and Boys



TRADE MARK

The Western Fair

London's Popular Exhibition | Sept. 11th to 18th, 1920

Fruit and Flowers

form a very attractive part of our Exhibition.

Liberal Prizes are Offered. Make Your Entries Early

Prize lists, entry forms and all information from the Secretary.

Entries Close September 8th

LT.-COL. W. M. GARTSHORE, President.

A. M. HUNT, Secretary

Aphine

The Recognized Standard Insecticide

Your DEALER Can Supply You

Aphine—Is the safest form of "insect insurance." The best remedy known for green, black, white fly, thrips and soft scale. Easily applied—Effective.

Fungine—For rust, mildew and all sorts of blights.

Vermine—Sure eradicator for insects affecting plant roots.

A **APHINE MANUFACTURING CO.**
DEPT. A, MADISON, NEW JERSEY.

Albert College

is more than a School
—it is a Home

Where men and women are educated, trained and prepared to make full use of their talents and fit themselves for successful futures.

Everything that a good college calls for is found in Albert; and added to all is the uplifting and refining influence which comes from co-education.

Full courses under competent teachers in Literature, Music, Art, Expression, Theology, Physical Culture, Stenography, and Commercial.

School re-opens September 7th, 1920.
Write for information or College Calendar to—

E. N. BAKER, M.A., D.D.

Principal Albert College,
Belleville, Ont.

ONTARIO LADIES' COLLEGE

WHITBY - ONTARIO

Public School to Second
Year University,

Household Science,

Music: Instrumental,

Vocal,

Commercial,

Elocution, Art.

School Re-opens Sept. 14, 1920

Civic and Parliamentary

Studies, Gymnasium

Work and Swimming.

For Calendar apply to

Rev. F. L. Farewell, B.A.

Principal, 94

OTTAWA LADIES COLLEGE

NEW FIREPROOF BUILDING

Academic work up to the first year University. Seven successful applicants for matriculation last term without failure in any subject.

Music, Art and Handicraft, Household Arts, Physical Culture, etc. Ample grounds.

The Capital offers exceptional advantages.

J. W. H. MILNE, B.A., D.D., President.

For Calendar apply to—MISS I. GALLAHER, Lady Principal.

To Seedsmen—Wholesale Only

The House of Kelway & Son has a reputation of over 70 years behind it as a guarantee. For three generations we have been growers and selectors of pedigree stocks of

BRITISH SEEDS

Get our prices for booking forward orders (delivery after 1920 harvest), not tomorrow, but NOW!

State your requirements, we do the rest.

Efficient and prompt attention given to all enquiries.

Specialities: Garden Seeds and Farm Root Seeds.

KELWAY & SON

Wholesale Seed Growers

LANGPORT, ENGLAND

CROPS and MARKETS

June Market Conditions

Furnished by Fruit Branch, Ottawa.

Calgary.—All apples about cleaned up. Several cars of Arkansas strawberries found a brisk market at \$13 a crate (24-qt.). Local green onions on market. First car California small fruit arrived June 15; plums, peaches and apricots found a ready sale, car being cleaned up in two days; peaches selling at \$3.75 a box, and plums and apricots at \$4.50 a crate.

Winnipeg.—Two cars of strawberries received during the week ending June 19; one from Washington, in very bad condition, sold to peddlers at any price that could be secured; the other from Hood River, in good condition, wholesale at \$9.50 a crate (24 pts.). British Columbia strawberries were expected on the market during the week ending June 26, and expected would wholesale at about \$8 a crate, if in good condition. The trade are filled up with onions and cabbages, the latter selling at 5c a lb. Cherries arriving daily and selling at \$11 per 20-lb. lug for Republicans and \$12 for Bings. Old potatoes have dropped to between \$3 and \$3.50 a bus., and new potatoes are selling at 12c a lb. Some B. C. gooseberries on the market at \$5 a crate (24 pts.); also some bunch lettuce from British Columbia and Minnesota; local gardeners supplying most of the green onion and lettuce trade.

Toronto.—During the early part of June practically all fruits and vegetables on the market were imported. With increasing quantities of imported new potatoes the de-

mand for old stock has become very small, and during the week ending June 21 they were selling at from \$6.50 to \$6.75 a bag. The first arrivals of new potatoes were of fair quality, but mostly very small and wholesaled at from \$15 to \$17 a bbl.; later in the month, however, they sold at from \$8 to \$15, according to grade. Some western boxed apples still on market at \$4.50 to \$5 a box. A few crates of Canadian strawberries of poor quality were received during the week ending June 12 and wholesaled at from 40 to 45c a box; during the following week they were more plentiful, but still of variable quality and many sandy, the prices showing a wide spread of from 15 to 38c a box. Toward the end of the month good strawberries were wholesaling at about 20 cents.

St. John, N. B.—Onions and potatoes showing most activity. While on June 1 onions were wholesaled at \$4 to \$4.50 a crate, on June 19 the price was \$3 for Bermudas and Texas, owing to the heavy receipts. Potatoes are firmer, having advanced \$1 to \$1.25 a bbl. since June 1. Owing to heavy exports, it is doubtful if there will be enough in the country to last until the new crop comes in. Local apples off the market; a few imported Winesaps are still being offered. Imported strawberries have been selling at from 50 to 60c a box; local berries appeared upon the market June 21, wholesaling at 50c a box. New Brunswick strawberries have established themselves on the Montreal markets, and buyers there are again showing a keen interest in the crop.

Graded and Culled

The first Ontario cherries on the Toronto market, June 21, brought \$2 to \$3 a six-quart basket.

A number of British buyers are in British Columbia negotiating for a portion of the apple crop of that Province.

A report to Ottawa from the Canadian Fruit Trade Commissioner at Liverpool forecasts a comparatively light apple crop in the United Kingdom this year.

The strawberry crop over a large part of the United States was almost a failure. The demand across the line for this and other kinds of Ontario fruits is expected to be good. Buyers already are enquiring.

At a meeting of the board of directors of the United Fruit Company, Limited, Kentville, N. S., in June, it was decided to establish canneries and vinegar factories in the Annapolis Valley for the purpose of taking care of apples that are not strictly up to the Nova Scotia standard for shipment abroad.

The United States Department of Agriculture reports prospects for a normal or five-year average yield in the Hudson Valley apple section of New York. In the New England States conditions generally are favorable, except for Baldwin. The Ozark section of Missouri is not so favorable, due to freezes and cold weather, but 45 per cent. of a full yield is estimated.

"If the weather continues favorable, this should be a good year for Ontario fruit growers," said P. W. Hodgetts, Director of the Fruit Branch, Toronto, to THE CANADIAN HORTICULTURIST recently. "The outlook for prices for all kinds of fruits is exceptionally

good." Mr. Hodgetts said that British Columbia buyers were enquiring for Ontario fruit, as the B. C. crop had already been bought up. American buyers also were looking to Ontario for supplies.

The Pacific Berry Growers, Ltd., has been incorporated with a capital of \$100,000. It is an organization of about 100 fruit growers. They grow small fruits on a large scale, and are planning to build a box factory, then a pre-cooling and cold storage plant, with the necessary facilities for ice-making.

Most of the apple orchards in the New-castle-Bowmanville-Oshawa district showed promise of fair to good crops last month. This was noticed by the editor of THE CANADIAN HORTICULTURIST while passing through that section on a motor car trip from Peterboro to St. Catharines. The editor hopes to spend two or three days in that district before the summer passes.

The first Ontario strawberries appeared on the Toronto market the second week in June and brought 50 cents a box wholesale. Good prices were maintained throughout the month, good berries averaging about 25 cents. About the middle of the month the canners in the Hamilton district announced that they would not sign contracts for this fruit, but would buy on the open market, expecting cheap berries.

There is a great scarcity of berry boxes and other fruit packages. The shortage is general in all districts. This is due in Ontario partly to the fact that the Oakville factory, which had the largest output, was burned this spring, and also to the fact that a number of other factories have not been making boxes. The Fruit Branch, Ottawa, has been in communication with certain paper box manufacturing concerns to see what could be done in the way of securing a supply of cardboard boxes to make up for part of the shortage in the wood veneer boxes.

5,000 Facts About Canada

"Canada in a nutshell" is an apt description of the popular "5,000 Facts About Canada," the thirteenth annual edition of which is out for 1920, as compiled by Frank Yeigh, the well-known Canadian authority. It is a most striking illustration of the trade, finances, industries and resources of the Dominion in concrete form, and will prove a revelation to even the best informed.

This new issue contains a wealth of new matter, including final War facts. It contains no less than 50 chapters of facts all told, ranging alphabetically from "Agriculture" to "Yukon." Copies may be had from newsdealers or by sending 25 cents to the Canadian Facts Publishing Co., 588 Huron Street, Toronto.

Few changes are to be noted in the Fruit Section of The Canadian National Exhibition Prize List this year. The prize list was put into the hands of P. W. Hodgetts and F. W. Fisher for revision, and they decided that few changes were necessary. Ribstons have been added to the apple classes both in the commercial classes and cone shape displays. Fellenburgs (Italian plums) and Monarchs have been added to the plums and McLaughlin and Wyoming Red eliminated. In pears, Duchess has been added to the five specimens on plate.

The Road to independence



Trouble comes to all of us at one time or another.

The man with a snug bank account, is fortified against the "slings and arrows of outrageous fortune".

It is the duty of every man to lay aside something for the inevitable rainy day.

Open a Savings Account today—and take your first step along the road to Independence.

THE MERCHANTS BANK

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

With its 131 Branches in Ontario, 42 Branches in Quebec, 1 Branch in New Brunswick, 2 Branches in Nova Scotia, 30 Branches in Manitoba, 44 Branches in Saskatchewan, 74 Branches in Alberta and 9 Branches in British Columbia, serves rural Canada most effectively.
WRITE OR CALL AT NEAREST BRANCH.

To Fruit Growers and Farmers—

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

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

NIAGARA FALLS
ST. CATHARINES
WELLAND

J. B. A. O'NEILL, Manager
B. B. MANNING, Manager
W. D. S. FRASER, Manager

THE DOMINION BANK
HEAD OFFICE TORONTO



**BURLINGTON
STEEL FENCE POSTS**
CHEAPEST—STRONGEST—BEST
for all woven or barb wire fences.
Anchor firmly—easy to drive—lasting.

Grape Growers

will find these posts especially valuable. No post-holes to dig—no posts to rot—keep wires from sagging—no staples to pull out—no repairs.

BURLINGTON STEEL CO., LIMITED
333 Sherman Ave. North Hamilton, Canada

**WRITE TO-DAY
FOR BOOKLET**

For sale by fence, hardware and implement dealers

FOR SALE AND WANT ADS

Advertisements in this department inserted at the rate of 3 cents per word. Each word, initial or group of figures count as one word. Minimum 30 cents cash strictly in advance.

BEEES FOR SALE

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

QUEENS—Three band and Golden Italians, whose bees are hustlers and nice to work with. 1 untested, May 1st to July 1st, \$1.00; one tested, May 1st to July 1st, \$1.50. Discount on large orders. L. R. Dockery, Car-rizo Springs, Texas.

SIMMONS' QUEENS—Goldens and Three-bands, from prize-winning strain. Also nucleus. Allen Simmons, Claverack, N.Y.

ITALIAN QUEENS—Northern bred, three-branded, highest grade, select, untested, guaranteed. Queen and drone mothers are chosen from colonies noted for honey production, hardiness, prolificness, gentleness and perfect markings. 1 to 1 doz., \$1.25; more than 1 doz., \$1.10; Virgins, per 100, \$55.00. One grade only—select untested. Send for circular. J. H. Haughey, Berrien Springs, Mich.

"SHE SUITS ME"—Italian queens—May 15th, \$1.50 each. After June 15th, \$1.30. Save exchange by remitting Canadian money by registered mail. Allen Latham, Norwich-town, Conn., U.S.A.

"QUALITY" THREE BAND ITALIANS—Queens from selected stock; untested queens 1 for \$1.50; 6 for \$7.50; 12 for \$13.50; 50 for \$55.00; 100 for \$100.00. N. J. James, 1185 Bird Ave., San Jose, Cal.

BEE SUPPLIES

FOR SALE—A number of eight frame supers, painted and in first-class condition; or would exchange for ten frame supers of equal quality. McEvoy Bros., Woodburn, Ontario.

BEE SWAX AND HONEY

WANTED FOR CASH—Choice white honey, in 60, 10 and 5-lb. tins. Will pay a good price for a first-class article. State what amount you expect, and send sample to G. R. Marshall, Hannon P.O., Ont. Reference, Standard Bank, Hamilton, Ont.

HONEY WANTED—We are prepared to contract for and buy first class white honey, coming season's production. You need run no risk by previous investment in tins and crates, we can supply them. Foster & Holterman Ltd., Brantford, Ontario.

WANTED—Beeswax, in large or small quantities. Highest price paid for good quality. McEvoy Bros., Woodburn, Ontario.

HONEY WANTED—I Want Your Surplus honey. I would prefer it in my tins. Let me ship you 60 lb. tins, and if we cannot agree about your honey later on, you can pay me for them, or will sell them cheap now. G. A. Deadman, Merlin, Ont.

CANARIES

SINGING CANARIES, BIRD MEDICINES, Books, etc.—Write for catalogue. The largest reliable bird supply house in Canada. Morgans Limited, London, Ontario.

MISCELLANEOUS

CAPONIZING SETS, FATTENING COOPS, Founts and Feeders—Write for large catalogue of all poultry supplies. Morgans, Limited, London, Ontario.

POULTRY

RATS, ANTS, ROACHES, FLEAS AND BED-BUGS—Our catalogue tells how to clear them out. Write Morgans, Limited, London, Ontario.

REAL ESTATE

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

SEEDS, BULBS, PLANTS, SHRUBS

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

YOUR ADDRESS for Holland grown Hyacinths, Tulips, Narcissus, Crocus, Gladiolus, Spiraeas, Dahlias, Diclytras, Iris, Paeonies and all miscellaneous bulbs and roots. Gt. Van Waveren & Kruijff, 116 Broad St., Room 40, New York City, U.S.A.

SPRAYS

SAVE YOUR TREES—Write for catalogue of insecticides and sprayers with free complete Spray Calendar. Morgan's Limited, London, Ont.

DOUGLAS GARDENS

Oakville - Ontario

1920 Catalogue now ready

Contains list of new paeonies and perennial plants. Largest collection of paeonies in Canada from 30c to \$10.00 each.

New and beautiful Iris and Phlox. Have you tried the Gold Medal Delphiniums?

Pansies for immediate flowering. Try our fine shades of Foxgloves for shady corners.

Roses should be ordered at once. Landscape gardening and all kinds of planting carried out by experts. Consult us on your alterations and avoid disappointment by planting unsuitable stock.

Erick Erickson

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



We have a large stock of all sizes

FLOWER POTS
FERN OR BULB PANS

AZALEA POTS
and Rimless Pans

Orders Filled Promptly.

Send for Prices

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

POULTRY YARD

Chicks in Thunder Storms

Often times young chickens are actually drowned by the heavy downpour of rain during thunder storms or heavy showers. Their bodies may not be completely immersed, but the delicate system of the young birds become chilled by the wet, and they soon die in a manner similar to drowning.

If chickens are noticed even in the last stages before death, they can most generally be revived and their lives saved by putting them in warm water at a temperature of blood heat, or about as warm as the hand can bear. As soon as revived they should be transferred to a warm dry place until they are thoroughly recovered and weather conditions have improved.

Poultry Pointers

The most notable growth of the duck is between the third and fourth weeks of its age, when it often doubles its weight.

Eggs from "stolen" nests should not be marketed; they are of unknown age and quality, and should be used at home.

When eggs are candled, and show a pale, greenish hue, and the yolk wobbles around in a weak, watery white, they are called "grass eggs." If cooked they have an unpleasant flavor. When a hen is made sick eating too freely of grass, she lays this kind of eggs.

Watch the chicks closely and mark the ones making the most satisfactory growth. Select the ones that are plump, full-breasted and in good proportion. One will not care to keep those that grow leggy and have thin breasts.

If there are chicks hatched this month, they will make better roasters than if kept for layers. Shade, green stuff, plenty of water, are essential in summer.

Canadian Poultry Book

A new book, entitled "Canadian Farm Poultry," has just been published by Macdonald College, Que. The book is well bound, neatly printed, replete with practical information and is well illustrated. It is the first Canadian poultry book to be offered to the public, the nominal charge of 50 cts. being made merely to cover cost of printing and mailing.

All phases of chicken raising are discussed, emphasis being laid upon the development of winter-laying strains of the more popular commercial breeds. The book should be of timely service to all who keep chickens and should influence the development of the Canadian poultry industry, which has assumed a remarkable growth within the past few years. A copy may be obtained by sending 50 cts. in stamps or postal note to The Bursar, Macdonald College, Que.

APPLE BARRELS

New standard-machine made, best quality. Delivered anywhere in Ontario and Quebec. Write for prices.

Contracts made with Fruit Associations and others.

JOHN HAYNE

SARNIA

ONTARIO.

