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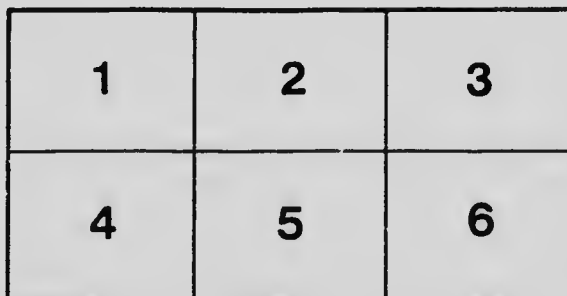
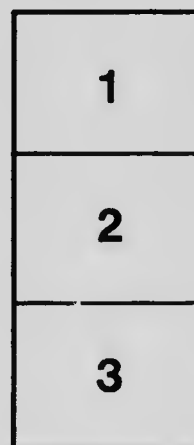
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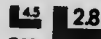
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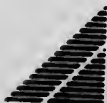
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Ontario Department of Agriculture

FRUIT BRANCH.

Bee-Keeping in Ontario

ARRANGED BY MORLEY PETTIT, PROVINCIAL APIARIST.

The information contained in this report has been taken from answers to questions sent out in a circular, dated May 15th, 1910, to our mailing list of bee-keepers in Ontario. This list is by no means complete; but it is being added to from time to time as names come in from various sources. We hope that bee-keepers who may not have received blanks for report in May will send their names to this department asking that they be added to the mailing list. For this purpose one who has only one hive of bees is quite as much a bee-keeper as one who has a hundred hives.

Report blanks were sent to two thousand one hundred and seventy-five bee-keepers. Reports were received from four hundred and eighty-eight. Seventy-eight per cent. of those who received blanks did not take the trouble to fill them out. The result is that the status of bee-keeping can be only very roughly estimated. While we have inadvertently failed to send blanks to some of the most extensive bee-keepers owing to the incompleteness of our lists, and a reorganizing of this part of the work, the value of this report is much less than it would be if the rank and file of the bee-keepers would take the trouble to supply a little information when requested.

The counties which have local associations have almost invariably sent in the most and best reports, showing the value of the spring meetings in arousing interest.

The information obtained with reference to local soil and drainage conditions will not be given in this report. It is being reserved until fuller information can be secured, when a special bulletin will likely be prepared. The relation between the nature of soil and the honey produced by plants growing on it is very marked, and presents a problem for careful research.

The summer honey plants reported are uniformly white and alsike clover. Basswood is reported from many of the counties although it does not form the staple source of nectar that it did some years ago. Raspberry bloom is reported as a honey plant in the counties of Bruce, Mus-

koka, Glengarry, Perth, Prescott, Renfrew, and York. Alfalfa is being introduced into many of the counties, but its value as a honey plant in Ontario is very problematical. It does not seem to yield nectar to any extent outside of the irrigated lands of the West. Even if it did the custom of cutting for hay when only one-tenth in bloom would practically destroy its value as a honey plant. Thistle bloom is one of the ill winds of the careless farmer which blows the bee-keeper some good, but improved methods of farming are limiting this source—fortunately for the general good. Withal, our most dependable source of white honey is alsike. Where this is grown extensively for seed on a good stiff clay, well-kept apiaries are practically certain to yield a splendid average income from year to year.

The prospects for honey this season so far as the honey flora is concerned are almost uniformly fair to good all over Ontario. The following counties report prospects "Poor to Fair": Carleton, Dufferin, Durham, Essex, Grenville, Haldimand, Kent, Lennox, Middlesex, Muskoka, Prescott, Simcoe, Stormont, Welland, Wentworth, York.

There is a variety of fall honey plants. Buckwheat, of course, is the staple, and is growing in popularity from year to year. Next to it is goldenrod, boneset, and some aster. Second crop red clover yields surplus gathered by some strains of Italian and Carniolan bees. Sweet clover gives considerable surplus in some sections.

The total number of colonies reported for the fall of 1909 is 18,445, for June 1st, 1910, it is 16,729. Roughly calculating from the percentage of bee-keepers who sent reports, one would be well within the limit in stating that there are 100,000 colonies of bees in Ontario this spring. The average number of colonies owned by those who reported is 34.3 each, spring count. Bees have wintered very well. The 9.3 per cent. loss given by those who have reported is quite light, as some of the most extensive specialists count on an annual 10 per cent. loss in wintering.

Much of the winter loss is not definitely understood, owing to the limitations of our actual knowledge of bee-nature. The reasons given in the reports are loss of queens, late weak swarms, starvation, dysentery, foul brood, poor ventilation of the hive or cellar, dampness in hive or cellar, honey flow, robbing, mice, and that indefinite term "spring-dwindling." In some cases are covered by the term "winter killed," which is quite true even though of uncertain definition. The whole wintering problem is one of the most frequently stated "difficulties" in the reports.

The condition of bees is very similar all over Ontario. The very warm weather early in March set up breeding and made the colonies strong early in the spring, but very short of stores. This shortage of supplies and the unfavorable weather later cut down breeding, much brood and even whole colonies starved, but not until in some cases a little epidemic of swarming sent many premature swarms out to suffer or starve in their new hives. Those who gave their bees one-quarter as much attention as they would give other live stock fed them sugar syrup, and will probably reap dollars for dimes in the clover honey season. In

many cases it will take bees at least two weeks into the clover flow to get ready for work.

The proportionate number wintered in cellars and outdoors varies greatly with the latitude. In all the southern and western counties outdoor wintering predominates, while in the north and east cellars are more popular. Some few repositories built above ground are used, but these do not as a rule give as good satisfaction as the underground cellar well darkened and ventilated. Bees were removed from cellars earlier than usual this year because the excessive heat in March made it impossible to keep them comfortably cool in the cellars. This matter of maintaining a proper temperature is one of the chief difficulties in cellar wintering. A few warm days in March make it necessary to set the bees out, then they suffer in their unprotected hives through weeks of bad weather afterward. The only way to winter bees in the average cellar is to pack and shelter them warmly after setting them out. This the vast majority of bee-keepers will not do, so we recommend packing them warmly on their summer stands in October, for all except the more northerly counties.

Without knowing what extenuating circumstances there may have been in some cases, we would judge that many who wintered outdoors unpacked their hives too early. There seems no reason why bees comfortably packed on their stands should be stripped and exposed to the inclement weather of April and the first half of May. Packing cases should be made so that a super could be put in the hive if necessary before it is unpacked. In fact, many leave the hives in the wintering cases all summer. If the cases are individual this method has some advantages, but where six or eight are in a case it is decidedly objectionable, both from the standpoint of convenience of handling, and the distribution of disease which may be in the yard. Bee-keeping in some of the best counties of Ontario is greatly hampered by men clinging to these antiquated hives, when a single honey crop would more than pay for convenient modern appliances.

Very little disease was reported. Men are not usually proud of its presence in their apiaries, although the disgrace is not in finding it present but only in failing to seek to get rid of it. The Ontario Department of Agriculture is spending \$3,000 this year in a continuation of the fight against Foul Brood. There are sixteen district inspectors in the field and their reports show that there is plenty of work for them to do. All suspected apiaries are being visited first, and any bee-keepers wishing to clear up doubts as to the presence of this disease in their neighborhoods should send word to the Department of Agriculture at an early date. It is quite natural that those who send a special request for the services of the inspector will be more apt to get them than those who do not.

The report on the races of bees shows far too great a percentage of black or German bees kept throughout the province. While these bees have many good qualities they are no better than the Italians in any respect except possibly in the whiteness of capping on comb honey, and

they are a sure prey to the European Foul Brood which has swept so disastrously over many parts of the United States and has done great damage in some parts of Ontario. It is impossible to cure this dread disease so well in any except Italian bees. On this account, as well as for other reasons, we would urge strongly that all apiaries in Ontario be Italianized as soon as possible.

All kinds of hives are used, from the "barn" down through the list of the twelve-frame, ten-frame, eight-frame Langstroth, the Jones, Richardson, Gallup, Quinby, and home-made. Only one man was brave enough to say he used box hives, and the number of combs, he said, was "Goodness knows how many I don't." After all, the kind of hive for one to use is the kind he has the best success with, but when one is just starting or is seeking uniformity of fixtures there seems nothing to gain and much to lose by adopting a hive which is a little different from everything under the sun.

The chief difficulties which bee-keepers have can be summed up in the two great problems of apiculture—swarm control and wintering. In many cases the trouble is summed up in the words of one man who said his chief difficulty was to "get the old woman to watch for swarms." The interest that is taken in this problem of swarm control is shown by the fact that when the Department of Bee-keeping at the Ontario Agricultural College sent out notices that instructions would be supplied to all who cared to conduct an experiment in the control of swarming, more than three hundred and twenty-five men and women from every county of Ontario, and from other provinces from the Atlantic to the Pacific, made application for the circular of instructions on this important subject.

A great many stated that they had not time to give the bees attention because their busy time came at the same time as the heavy work on the farm. The solution to this difficulty is to have plenty of store combs and supers. Stack these on the hives from time to time as needed, and systematically keep the bees busy and contented so they will not think of wanting to swarm, then neither the "old woman" nor the old man will be worried getting swarms down from high trees, or seeing them go to the woods.

The wintering problem needs to be just as carefully studied. No colony ever dies without a definite cause, which should be carefully sought out and prevented next time. Plenty of good stores; good queens, warm packing, shelter from winds, all these and many others are factors in successful wintering. If the bees are always prepared for the hardest kind of winter they will get through the easy ones all right.

Prospects are right for prices this year as the markets are bare and honey has become a staple which dealers look for regularly. Blanks will soon be sent out by the Committee on crop reports and prices. It is to be hoped they will meet with a hearty and prompt reply by all who receive them.

The following reports are summarized directly from the statements received:

County.	Per Cent Winter Losses.	Causes.	Per Cent Cellar Wintered.	Dates Removal from Cellar.	Per Cent Outdoor Wintered.	Dates Removal of Packing.	Nature of Winter Stores.
Brant	25	Mice and starvation.	34	March 22.	66	May 5.	Some sugar syrup.
Bruce	8	Poor queens, weak swarms, starving.	67	March 15 to April 13.	33	May 16 to May 30.	45 per cent fed sugar syrup.
Carleton	9	Starving and foul brood.	83	March 28 to April 10.	17	.....	40 per cent fed sugar.
Dufferin	11	Poor queens.	82	March 25 to March 28.	18	.....	Honey and some syrup.
Dundas	4	.....	79	March 30 to April 15.	21	.....	.....
Durham	10	.....	60	March 20.	40	.....	60 per cent fed sugar syrup.
Elgin	31	Robbing, poor queens, and starvation.	33	March 20 to April 1.	77	April 1 to June 3.	34 per cent fed sugar syrup.
Essex	13	Starving, honey dew, dysentery late swarms.	.....	.....	100	April 15 to May 17.	Fed sugar syrup.
Glengarry	6	Poor queens and starving.	100	March 20 to April 22.	.....	.....	.....
Grenville	14	Robbing.	100	April 15.	.....	.....	Honey.
Grey	9	Poor queens.	37	March 23 to April 23.	63	March 6 to March 25.	50 per cent fed sugar syrup.
Haldimand	10	Starvation.	7	April 4.	93	May 1 to May 17.	8 per cent fed sugar.
Halton	10	.....	.....	.....	.....	.....	.....
Hastings	14	Old queens and late swarms.	100	March 23 to April 1.	.....	.....	Honey.
Huron	7	Poor queens, starvation, entrance clogged with dead bees.	28	March 24 to April 5.	74	April 20 to May 23.	.....
Kent	3	Starving, winter killed.	.....	.....	100	May 20.	Syrup and honey.
Lambton	8½	Starvation, late swarms, dysentery, poor ventilation.	9	.....	91	April 15 to May 24.	.....
Lanark	8	Poor queens, late swarms, spring dwindling.	100	March 25 to April 15.	.....	.....	Honey and syrup.
Leeds	5	Poor queens and starvation.	100	April 1 to April 20.	.....	.....	.....
Lennox	4	Robbing.	.....	.....	100	May 6 to May 12.	Honey.
Lincoln	20	Poor queens and spring dwindling.	.....	.....	100	May 20.	.....
Middlesex	12	Poor queens, starving, mice.	43	March 1 to April 12.	57	May 1 to May 25.	.....
Muskoka	15	Starvation and queenlessness.	100	March 28 to April 8.	.....	.....	Syrup.
Nipissing District .....	.....	.....	100	March 23.	.....	.....	Honey.
Norfolk	16	Poor queens, honey dew, spring swarms.	27	March 5.	73	May 1 to May 25.	Mostly honey.
Northumberland	14	Late swarms, poor queens, starving.	100	March 20 to April 15.	.....	.....	64 per cent sugar syrup.
Ontario	5	Moths, starving, poor queens, foul brood and smothering.	54	March 25.	46	April 15 to May 15.	26 per cent fed sugar syrup.
Oxford	14	Starving, late swarms, spring dwindling, poor queens.	68	March 25 to April 1.	37	April 23 to May 9.	39 per cent fed sugar syrup.

County.	Per Cent Winter Losses.	Cause.	Per Cent Cellar Wintered.	Dates Removal from Cellar.	Per Cent Outdoor Wintered.	Dates Removal of Packing.	Nature of Winter Stores.
Peel	7	Starving, spring dwindling, poor queens, robbing.	69	March 23 to April 1.	31	May 20 some packed all summer.	47 per cent fed sugar syrup.
Perth	9	Starving, spring dwindling, poor poor queens.	65	March 19 to April 1.	35	May 1 to May 15.	50 per cent fed sugar syrup.
Prescott	8	Poor queens, starving.	100	March 24 to April 8.			30 per cent fed sugar.
Prince Edward	5	Starving and poor queens.	100	March 24 to April 1.			65 per cent fed sugar syrup.
Renfrew	7	Starving, disease, poor queens.	99	March 27 to April 15.	1		50 per cent fed sugar syrup.
Russell	11	Poor queens, robbing.	100	March 28 to April 10.			54 per cent fed sugar syrup.
Simcoe	10	Poor queens and starvation.	33	March 19 to March 26.	67	Mostly left packed all summer.	45 per cent fed sugar.
Stormont	10	Robbing.	100	March 23 to April 25.			54 per cent fed sugar syrup.
Temiscaming	13	Too weak in fall, poor queens, starving, moths.	100	April 15.			Honey.
Victoria	7	Poor queens and spring dwindling.	31	March 23.	69	Mostly left packed.	18 per cent fed sugar syrup.
Waterloo	6	Poor queens and spring dwindling.	16	March 15 to April 1.	84	May 15 to May 25.	87 per cent fed sugar syrup.
Welland	14	Starving and poor queens.	90	March 26 to March 28.	10	May 15.	10 per cent fed sugar syrup.
Wentworth	5	Starving.	43	March 21.	57	May 3 to May 15.	95 per cent fed sugar syrup.
York	6	Foul brood, starving, queenlessness.	28	March 12 to March 23.	72	May 10 to June 1.	35 per cent fed sugar syrup.

County.	No. of Beekeepers on list.	No. of Returns.	Summer Honey Plants.	Fall Honey Plants.	Cruc. Prospects.	Conditions of Bees.
Brant	33	6	Clover, basswood.	Buckwheat, Incerne.	Fair to good.	Good.
Bruce	115	32	White and alsike clover, basswood, raspberry.	Buckwheat, golden rod.	Fair to good.	Fair to extra good.
Carleton	24	7	Clover, basswood.	Buckwheat, golden rod.	Poor to fair.	Good.
Dufferin	11	3	Clover.	Buckwheat, golden rod.	Poor to good.	Fair to good.
Dundas	24	7	Clover.	Aster, goldenrod, fireweed, buckwheat.	Fair to good.	Good.
Durham	3	2	Alsike, basswood.	Buckwheat, golden rod.	Good.	Good.
Elgin	59	18	White clover, alsike, basswood, hinewood, chestnut, fruit bloom.	Buckwheat, golden rod.	Fair to good.	Strong but short of stores.
Essex	61	17	White and alsike clover, basswood.	Goldenrod, aster, huckwheat.	Poor to fair.	Only fair to good.
Glengarry	73	15	Clover, basswood.	Buckwheat.	Only fair to good.	Fair to good.
Grenville	4	1	Clover.	Buckwheat.	Fair.	Fairly good.
Grey	71	20	Clover, basswood, alsike.	Buckwheat, golden rod, red clover.	Only fair to never better.	Fair to best ever.

County.	No. of Beekeepers on list.	No. of Returns.	Summer Honey Plants.	Honey Plants.	Crop Prospects.	Col. itions of Bees.
Haldimand....	30	7	Alsike, white clover, basswood.	Buckwheat, golden rod.	Fair.	Good.
Halton	5	1	Clover, basswood.	Buckwheat.	Good.	Good.
Hastings.....	21	4	Alsike, white clover, sweet clover.	Buckwheat.	Fair to good.	Good.
Huron.....	39	13	Clover, basswood.	Buckwheat, golden rod.	Only fair to good.	Fair to very good.
Kent.....	31	5	Alsike, basswood, white clover.	Buckwheat.	Poor to fair.	Poor to very good.
Lambton.....	70	21	White Alsike clover, basswood.	Buckwheat, golden rod.	Only fair to good.	Fair to very good.
Lenark.....	20	6	Clover, basswood.	Buckwheat, golden rod.	Fair to good.	Good to very good.
Leeds.....	79	12	White and alsike clover, basswood.	Buckwheat.	Fair to good.	Good to very good.
Lennox.....	4	1	Clover, basswood.	Buckwheat.	Fair.	Excellent.
Lincoln.....	22	5	White and alsike clover, basswood.	Goldenrod.	Good.	Fair to good.
Middlesex....	188	57	Alsike and white clover, basswood.	Buckwheat.	Poor to fair.	Fair to good.
Muskoka.....	2	2	Wild raspberry, clover.	Goldenrod, wild aster.	1 yr.	Fair.
Nipissing....	2	1	Clover, dandelion, wild flowers.	None.	Fairly good.	Good.
Norfolk.....	219	24	Alsike and white clover, chestnut, basswood.	Buckwheat, golden rod.	Fair to good.	Poor to fair.
Northumberland.....	100	15	Clover, basswood, alsike, thistle.	Buckwheat.	Fair to good.	Fair to good.
Ontario.....	92	14	Alsike and white clover, basswood.	Buckwheat.	Only fair to good.	Fair to good.
Oxford.....	81	27	White and alsike clover, basswood.	Goldenrod, buckwheat.	Good.	Fair to excellent.
Peel.....	37	15	White clover, alsike, basswood.	Buckwheat, golden rod.	Only fair to good.	Fair to good.
Perth.....	111	29	Alsike, alfalfa, clover, raspberry, basswood.	Buckwheat.	Fair to good.	Fair to good.
Prescott.....	33	10	Clover, basswood, raspberry.	Goldenrod.	Fair.	Fair to good.
Prince Edward.....	11	6	Clover, basswood, alsike.	Buckwheat.	Fair to good.	Good.
Renfrew.....	34	12	Alsike, raspberry, clover, basswood.	Buckwheat, golden rod, late clover.	Fair to good.	Fair to good.
Russell.....	29	5	Clover, basswood.	Goldenrod, huckwheat.	Fair to good.	Good.
Simcoe.....	56	16	Clover, basswood, thistle.	Buckwheat.	Poor to fair and good.	Fair to good.
Stormont....	23	8	Alsike and white clover, basswood.	Buckwheat.	Fair.	Good.
Temiscaming..	1	1	Clover.	None.	Good.	Good.
Victoria.....	23	15	Alsike and white clover, basswood.	Buckwheat.	Fair to good.	Fair to very good.
Waterloo....	33	6	White and alsike clover, basswood.	None.	Fair to good.	Fair to good.
Welland.....	15	3	Alsike and white clover.	None.	Poor to fair.	Good.
Wellington...	..	..	Clover.	A little huckwheat.	Fair to good.	Fair to good.
Wentworth...	66	6	Alsike, white and sweet clover, basswood.	None.	Fair.	Good but short of stores.
York.....	198	21	Clover, basswood, raspberry.	Buckwheat.	Fair.	Fair to good.

