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## Canadian Bee-keeping

BY GILBERT WINTLE,  
The Anchorage, Como, P. Q.

READ AT THE BEDFORD CON-  
VENTION OF QUEBEC FRUIT  
GROWERS.

As a preface to this paper, I wish to lay stress on the fact that it is not addressed to bee-keepers. They have the Journals, the Bee-keepers conventions, and various other channels open to them for the discussion of questions interesting to the professional apiarist. To enter on such matters here, at a meeting of fruit growers, would be to appeal to the masses, at a risk of becoming wearisome to the majority of my auditors, so I have elected to write a missionary paper. However, in such a district as this, it cannot be altogether a case of breaking new ground; for, in the country, in this province, almost everyone keeps a few bees, or, if they do not, at least they are accustomed to see bees kept by their neighbors. At all events in my own county, driving along the fourteen or fifteen miles of high road between Rigaud and Vaudreuil, one sees the homes where a few hives

of bees are seen to be decidedly in the majority. I only wish that signs of intelligent bee-keeping were equally common. But alas! the old box hives, without frames, and with no sensible facilities either for storing or harvesting the honey crop, still predominate. Bees are sulphured to death in the Fall, and, apart from the honey used in the house, the only profit is a little dark colored, strained stuff, peddled around for what it will fetch.

However, things do move, if slowly; and I think that I see a few more framed hives on that route to-day than I saw eight years ago. Perhaps you in the townships are ahead of us in Vaudreuil: if, so, so much the better. But permit me to observe that the man who buys a frame hive for his bees, and stops there, has not done everything. If he continues to run his frame hive on the same principles on which he formerly ran his box-hive, he is in the position of the Irishman in the Sedan chair without a bottom; except for the look of the thing he might have saved his money.

Now this is the gentleman I want to catch: the man who has a few bees, no matter in what kind of hives, and doesn't take an interest in them.

His bees always make honey—some honey—which comes in very pleasantly for family use; and he really doesn't see why he shouldn't let well alone. Well, it is a commercial age, and here is a little com-

mercial anecdote, which seems to have a bearing on the subject.

Waiting for an electric car I took shelter the other day in a doorway where two men engaged in an animated conversation. They went on with their talk without paying any attention to me. One of the men was evidently a salesman in some store, the other the head of the department. The latter was telling the former that he must either learn to hustle and make a better showing with his sales or else get out. It was not put quite so rudely as that: but that was the gist of it. "Why," he said, "I don't believe you've sold a single thing since you came. I know things have gone over your counter; but you hav'n't sold them, it's the customer has come and bought them, and let me tell you that doesn't do under modern conditions."

Exactly! in the same way the man who has a few bee-hives, and is content to let the bees lazy alone, and make a little honey in their own old way, when by a little persuasion, a little work, a few modern appliances, and modern methods in their application, he might easily double if not treble his harvest, as well as obtain it in a form much more readily marketable, shows himself - I say it with all possible politeness, and a wish to avoid even the appearance of hurting anyone's feelings—a little behind the times.

At the same time this line of argument must not be pressed too far, for instance, if I should buttonhole a busy prosperous business man, and worry him to give up a lot of time to learning what is really a business by itself; but for him can never be more than a side issue, I fear that it might hinder him from giving me an answer at once, short, forcible and to the point. So, in the case of a man

who is really too busy for it to pay him to give up the time necessary to learn bee-keeping, I would suggest that he try regarding it, not as work at all; but as a hobby a recreation. I can give him my word that there are few pursuits more interesting. However, we cannot compel men's minds, and perhaps our busy gentleman will say that he does enough outdoors already, and prefers his pleasure in some other form. In such a case, I recommend the following course. Somewhere about the house there will be a pretty surely a boy, of what I call the reading age, the age that, if nothing else is offered turns to dime novels and similar literature. On such a young gentleman try the effect of a birthday present of the A B C of Bee-culture, or if that be judged to expensive a work to buy as an experiment, a copy of the British Bee-keepers Guide Book. The latter is perhaps the best and most practical cheap bee book published, though unfortunately it needs a little allowance to be made for altered climatic conditions in Canada. Either book may be obtained of Mr. F. W. Jones, of Bedford, or at the office of the Canadian Bee Journal, Brautford, Outario. Unless that boy is different from most boys of his age he will take hold of bee-keeping with all the enthusiasm of his age, and will probably make a success of it. I have taken the case of a boy for illustration; but there is no reason why the same thing should not apply to his sister. Till you come to keep over 20 hives there is no really heavy work about bee-keeping and plenty of young ladies make a success of it.

And now to justify the title of this paper, I want to point out how here in Canada, we enjoy a climate specially favorable to the bee industry.

Roughly speaking, anywhere out

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of the trophies. the great problem before the bee-keeper, who wants his bees to be remunerative, is to keep them as quiescent as possible in winter, and hustling all the time all the rest of the year. Now here in Canada our climate almost does this for us. Our winter is a real winter, and bees put in in good condition hardly ever get uneasy until the middle of April. Then they are ready enough to begin brood-rearing and by the time fruit bloom comes, the old winter bees are dead, and the spring generation is hard at work rearing a huge population of summer bees, the bees that are going to gather the clover and make our profit. Between the close of fruit-bloom and the opening of clover, we certainly do get a few critical days, when the hives need careful watching. But once clover yields honey, the bee-keeper's troubles are at an end. All he has now to do is to hustle on the empty sections and hustle off the full; and this goes on for about six weeks. Then comes a good fall harvest of dark honey, which I prefer to leave to the bees for winter stores, as for that purpose it is just as good as clover, though not so profitable commercially. To the golden rod and buckwheat flow succeeds a late fall, fine enough for the bees to fly occasionally, which is useful, as sending them to their winter sleep in better health: but never hot enough to encourage brood-rearing, with its concomitant heavy drain on the hive vitality. Then comes our winter, which, as I have already taken occasion to remark, is a winter, not a pretence at winter; and, if the bees are put in strong, and carefully packed, they pass it with a minimum of loss: and in April, or even before, if the usual wintering is practised, they are ready to once more turn to for their owner's benefit.

The case of the English bee-keeper

is a very different tale. Winter there comes in samples. Half the winter months bees are playing at its being summer; brood-rearing is going on early in February; and, as often as not; late in the same month a good sharp touch of winter will come along, the effect of which on a hive with three or four frames of brood may be imagined—chilled brood, disease, and, even if it should manage to survive, a hive that will bring no profit that year. Even if all goes well the spring is long drawn out; the hives cannot utilize the fruit bloom as we do to stimulate brood-rearing; but some of it gets stored and mixes with, and lowers the quality of the clover. When the summer honey is over, if he wants a fall harvest, fit to call a harvest, he must generally take his hives to a healthier district. Then winter again, which is neither one thing or the other, and so the round goes on.

Roughly speaking our advantage may be summed up as follows:

The Canadian bee-keeper's bees are either earning well, or else they are safely stored in a storage that costs him nothing. The Englishman's bees on the other hand, half the year are napping about, earning it is true, but earning slowly; and the rest of the time are both idle and needing a lot of looking after. Well do not let us waste time in pitying him; the remedy is in his own hands. Steamers leave Liverpool always twice, sometimes three times a week, and the best part of the British Empire asks nothing better than to welcome him.

But do not let us, who are on the spot, neglect our great advantage.

In speaking of this question of keeping bees I began by addressing farmers and those who live in the country all the year round; but I should like to point out that bee-keeping is also the country industry

par-excellence which should appeal to the city man who comes to his country house for the summer only. I feel sure that this is not generally understood, and so with your permission I will dwell a little on this aspect of the question. I know two or three cases of summer people who go in for chicken culture and incubation and not a single instance of their going in for bee-keeping. Now I do not wish to say anything against chicken culture and incubation, either as an interesting hobby or a money-making industry. But for anyone who does not come out to the country till late in May, and must either sell off all his chickens again in September or pay someone to care for them, it seems to me that it must prove rather an expensive amusement.

How different with bee-keepers. One visit some Saturday in April, about the time that town people generally do go out to see how their property is looking after winter, will be enough to put the hives out if they are cellared, or to clear the entrances if they are wintered out of doors. Then a little later, about the time that people come out to spring clean and sew their gardens, the hives can be looked through, weak stocks united, and other necessary work of that kind done. The bees will then manage themselves very comfortably till late in May or early in June, when their owner will be once more on the spot, to put on sections and do anything else that may be required. I must not be understood to say that a large apiary can be satisfactorily run on these lines; but a small apiary, say of from one to two dozen hives certainly can. I may go further and say that in the case of a beginner, it will generally be better ran like his than if the owner were there all the time. For, though spring work

by an experienced apiarist is often of very great value, yet an amateur is always apt to overdo it. Half the talk about spring dwindling, for instance, comes from amateurs; and the best prescription in three cases out of four would be a good spring letting alone.

There is one other point about bee-keeping, that I should like in this connection to bring to your notice. Out door work in an apiary need not begin before nine o'clock in the morning and there is seldom anything that has to be done after four o'clock in the afternoon. For the happy bee-keeper there is no getting up at four o'clock to milk, nor are there any last rounds to be made with a lantern late at night. There may be people who like to get up at four every morning personally that is the sort of thing I like to do once a year, and to talk about it the other three hundred and sixty-four days. Finally bee-keeping is from one point of view the most delightfully immoral industry imaginable. Its profits are all unearned increment. A few square yards of ground—and if you do not have the ground, then a flat house top will do—on which to stand your hives, the hives themselves, which are not expensive, and a stock or two of bees is all you need to start with. Not a single fruit tree or clover plant or buckwheat patch do you need; the bees know where to find all that; and in their search go over fences and boundary lines, into other people's fields and flower gardens with a regard for rights of property and rules about trespasses, that if there were any way of prosecuting them would keep a whole college of lawyers in easy circumstances for life.

Surely this is an aspect of the question which should appeal to the city man. What a delightful prospect is here opened up

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a gentleman connected with the stock exchange: a healthy country industry and the virtuous feeling that comes from pursuing it; and with all the pleasant knowledge that one is skinning one's neighbor all the time.

Now on the chance that I may have made at least one convert to the ranks of scientific apiculture, I will conclude with a few practical hints as to the course he should pursue.

If he is already the possessor of a few bees, all he needs is next spring to invest in half a dozen frame hives with sections, a few pounds of comb foundation, a bee smoker, and, last but most important of all, a bee book. As I said before, a very complete and practical manual is the A. B. C. of Bee Culture; but the British Bee-keepers Guide Book is cheaper and very practical and reliable. In fact to a beginner I am not sure that I would not recommend this book in preference to the A. B. C. If he takes to bee-keeping, as I hope he will he can get the A. B. C. later on. There is a much more elaborate bee book than either of these, namely, Frank Cheshire's Bees and Bee-keeping. It is certainly a work that should be in every bee-keepers library; but it is expensive, and I do not recommend its purchase to begin with. Thus equipped with bee book and appliances he will start out to transfer his bees—and he will make mistakes. But I think that I can promise him that mistakes and all, his honey crop, even the first year, will be at least equal to his old average. By the second spring comes, he will be already a bee-keeper.

If, on the other hand, the prospective bee-keeper has at present got no bees at all, he can adopt one of two ways. Either he can buy two or three hives of bees in box hives, then buy his frame hives empty and trans-

fer, or he may buy his bees in frame hives right out. I strongly recommend the latter course. I have transferred more than fifty hives during the last few years, and I can assure my auditors that it is one of the nastiest and meanest jobs that a bee-keeper has to do. He also will in one year become a bee-keeper, ready, with the knowledge that comes from practice, to increase his apiary up to any point he may consider desirable.

Lastly I will take the case of the city man, who wants bees for his country house, him I would recommend to buy his bees in frame hives to start with. And in his case I will make another suggestion, namely that, while he is about it, he should buy double-walled outside-wintering hives. There can be no doubt but that, hive for hive, these are the better kind. On the other hand it is not quite so certain that they are sufficiently better to always justify the extra expense. Personally I am inclined to think that they are, but I know that others think differently, so, in advising the man who looks to go into the business on a cold dollars and cents basis, I prefer to leave the question an open one. But the city man who wants bees for his country house, hardly falls into this category, and him I certainly advise to get double walled hives.

But there is one thing which everyone, farmer, city man or schoolboy, who thinks of going in for bees, absolutely must get, that is a bee book.

A beginner once wrote to a well-known American apiarist, asking for a few pointers on bee-keeping, as he had no money to buy a bee-book. The reply was at once laconic and practical: "Pawn your watch and get one."

I do not like to close this paper without a reference to the Canadian

Bee Journal. It costs only \$1.00 per annum, and by clubbing it with some other paper, it may be had cheaper. For instance the Canadian Bee-Journal and World Wide may be had for \$1.50 per annum. Of course it does not take the place of a bee-book, but the beginner will find that a great many difficulties crop up, that no book exactly explains. It is then a great help to use the correspondence column of such a journal as the C. B. J.

## Notes by the Way

By G. A. DEADMAN.

### JOTTINGS IN THE WEST.

Thousands are flocking to Manitoba and the North-west. New buildings are going up in every direction. While this will continue both in the country and towns, yet we cannot expect much growth in many of the latter when the country has been well settled. This will be due to their proximity to each other. Many good business towns or villages within ten miles of each other can hardly be expected to grow much in a country where farms contain 320 to 640 acres.

Fruit is very plentiful in the stores all imported however. Honey, well in some stores only. What a difference in this respect, some have little or none and don't seem to have any demand for it. I have the conviction more and more that people require to be educated to eat honey. This takes time, but the reaping is sure if we will only have patience. To one who is accustomed when at home to have honey on his table at least once a day

it seems strange that many should be so indifferent and others—well some hotel men and boarding house keepers for example, declare positively that their boarders would not eat it and that it would be only wasted. Think of that for a statement by one who has some 30 or more sitting down daily at his tables. When it comes to a matter of cost as compared with fruit, one can generally convince these men that of the two, the honey is cheaper and less trouble, but when one in his ignorance declares that his boarders would not eat it and that it would only be wasted and declares he has some in his house as one did today, I give it up.

Did you ever ask for honey when travelling? try and not forget it next time and see how few even of the best hotels have it. Bee-keepers when travelling should always do this, it would be a reminder if nothing else and to make it more effectual we should report to the proprietor when paying our bill. I will try and make amends for my sins of omission in this respect in the future. What a common mistake it is to think that because we may not care for some things ourselves, that others do not. It is especially bad when the cook gets possessed with this idea. Eating honey as well as selling it is largely a matter of education. Fancy a merchant in a rising town declaring that he could not sell one pound of honey a month; others of course have some call for it. The stores are few and far between that sell more than 300 lbs. a year, many not one fourth that quantity. We must not conclude however that the merchants sell all the honey that is consumed. It is a common practice, perhaps not so common as in the past, for to order from some bee-keeper friend in the east. I have been trying to find out what the yield has been out here, but judging

from the absence of it in the stores and the dry weather for sometime I conclude that returns this year must be much less than last, if so, it will be in sympathy with the wheat yield which runs about 15 bushels to the acre, and a poor grade at that, a heavy snow storm reduced it very much. It is too soon to predict what honey will be wholesale in Winnipeg—some buyers are waiting for lower quotations. I have no doubt that there will be plenty to supply the demand as many bee-keepers have the idea that Winnipeg is the place to sell honey. It is a mistake to send it there without having orders in advance; in fact this applies to other things besides honey. Recently someone was so unwise as to bring a carload of Damson plums; the express, I am told, was \$425; they were of course sold at a sacrifice. This party will never repeat it, but others, no doubt will in something as bad. Another shipped 9000 lbs. of honey to Brandon, Man; his intention was to store it, go up the line and take orders and have it trans-shipped; in some towns he will not sell any, in others may be from 100 to 400 lbs. Calculate how long it will take and how many places he will require to call at—may be he will try and reach some consumers direct; in doing so he will be subject to a fine or pay a license. His task is certainly not an enviable one. I have seen some 1902 comb honey in the stores, all of it candeed solid and unsaleable and was none too well filled. The demand for No. 1 fancy is in excess of the supply.

In order to be in perfect health one must be temperate in eating. The meals also should be regular. Regularity is one of the golden rules of a well-ordered life. — Ladies Home Journal.

### Clipping Queens' Wings.

"Say, Doolittle, what about clipping queens? Neighbor Brown says he doesn't believe in it. He says that it is too much bother to hunt up the queen and that it is too delicate a job to clip her wings when she is found and that there is more harm than good in doing it anyway. So I came over to see what you would say."

"While there may be a grain of truth in what your neighbor tells you, yet when we come to "count noses" the greatest weight of evidence from the "dollar-and-cent" apiarists of the country is in favor of clipping queens' wings."

"What reasons have you to offer for so doing?"

"By having the wings of all queens clipped, you have the bees perfectly under your control and can handle them as you wish, separating them with pleasure when two or more swarms cluster together and hive without climbing trees, etc., on the returning plan, when they come singly, they virtually hiving themselves."

"What is that? Tell me something about the plan."

"In using this plan all you have to do when the swarm issues is to step to the entrance of the hive with a little wire-cloth cage into which the queen is let run, when the cage is stopped and laid in some convenient place. The old hive is now moved to a new stand and a hive fitted for a new colony set in its place. In from a few minutes to half an hour the bees miss their queen and come back to their supposed old home, where they expect to find her and the hive as it was when they went out. On changing hives the queen is placed near the entrance, so that, as soon as the bees return, they may find her, and not

scatter about the apiary to other hives, as they sometimes will if they do not readily find her. As they return they will commence to run into the new hive with fanning wings, when the queen is liberated and goes in with them."

"Well, now, if it will work like that, no wonder that you like it. How long have you used this plan?"

"I have followed this plan for nearly a third of a century and know it to be a good one, as good yields of honey will testify—no climbing of trees, cutting off limbs or lugging a cumbersome basket or swarming-box about. It is straight forward. Let me briefly state it again: Remove the old hive to a new stand, put the new hive in its place and the returning swarms hive themselves with little or no trouble, save the releasing of the queen."

"That is nice, surely; but is that all the reason you have for clipping queens' wings?"

"I have several besides this, one of which is I clip the larger part of the wings off, say two-thirds of all four of the wings, so that I may the more readily see her, now that my eyes are growing dim. In making nuclei, changing frames of brood and bees, extracting, making swarms by shaking, etc., if you find the queen you can always know that she is just where she belongs and not in some place where she ought not to be. And by having her wings cut short you can see her abdomen as soon as your eyes strike the side of the comb she is on."

"That is a good thought also, and one that would help me much, for I have often hunted half an hour or more for a queen and finally gave up in disgust because I could not find her. Tell me more of these reasons. They explain the situation better than I thought it possible."

"Of course you have heard of the old and main reason for clipping the wings of queens, namely, there is no loss of bees from their going to the woods."

"No. I am only a beginner and neighbor Brown gave no hint of this."

"That bees do go to the woods, or for parts unknown, all can assure themselves by reading the reports given in our various bee-papers from time to time, if they do not know the same from actual experience. The bees may try for the woods, and they often do; but as soon as they miss their queen, back they came, for they realize that swarming is of no purpose to them unless they have a queen with them to repopulate their home after the bees composing the swarm die of old age. Many a time have I had a swarm start for the woods or some unknown place and be gone from sight and hearing for some little time; but as soon as they really missed their mother, back they would come, setting up a joyful hum when they found her."

"That is the best of all you have told me and I am convinced that the clipping side has the best of the argument. But tell me how to find a queen and how to clip her after being found."

"The time of the year in which we undertake this matter has much to do with the pleasure of the work. If we wait till just as swarming time is upon us, and attempt to hunt up a queen in a hive that is overflowing with bees and especially one that will probably swarm in a day or two when the queen has ceased her laying pretty much, so that a burden of eggs need not hinder her from flying with the swarm and thus cause her to become no larger than she was when unfertile, we might well speak of the matter as a "bother," as did your

neighbor; for to find a queen, under such circumstances, often baffles the most experienced apiarist. But if we do the work in fruit-bloom, when there are comparatively few bees for the brood they are covering, and the queen very large from her prolific egg-laying, using the time from 9 a. m. to 3 p. m. to look for the queen, this being a time still more favorable on account of a large share of the few bees of the colony being at work, it will be a rare thing that any queen is not found on the first effort, and almost immediately, even by the novice."

"Another new thought to me. But tell me more about how you do it."

"I take along a light empty box of the same dimensions as the hive, and after smoking the bees as little as possible to keep them from stinging, if they are of the cross kind (many colonies need no smoke at all at this time of the year), I carefully lift the first comb and as it comes from the hive glance at it to see if there is brood in it, for it is generally useless to look for any queen at this time of the year on combs having no brood in them, if the queen has not been stampeded by careless operations. As soon as I find brood I look closely for the queen, first glancing down the side of the comb next to the one I am lifting from the hive and next on the opposite side of the one I hold in my hands, holding the comb a little obliquely as I look for the side of any queen gives a better view than when looking straight on her back. While you are looking for the queen on the frame that is in your hand, should she have been on the side of the comb next to you, and you failed to see her, she would immediately pass around to the dark side of the comb, so it is generally useless to look for her on the side of the comb next to you, after you have it in your hand.

As the combs are taken from the hive, set them in the box, so that, should you not find her the first time over, you will have the same chance of seeing her in setting them back into the hive again that you did at first. In this way, after a little practice, you will have little or no trouble in finding any queen, even should it be a black or German queen.

"I think I understand that part now. The next thing is how to clip, and I must be going, as I have already stayed longer than I intended."

"Having found her I take her by the wings with the thumb and fore finger of my left hand, when, with my right, I place the sharp blade of my jack-knife on the part of the wings I hold in my left, lowering both hands to within an inch or so of the tops of the frames, when I draw the blade just a little, thus severing the wings, when the queen runs down into the hive the same as if nothing had happened."

"I thank you very much for your patience in so minutely explaining this to me. But one question more. Is there not danger of cutting the fingers?"

"No, not if you stop drawing the knife as soon as the queen falls; and place it squarely on the wings when starting. Some use scissors and they are very good; but after using all plans recommended, I like the knife the best, and it has the advantage in that every one carries a knife which is always on hand at any time you may chance to find a laying queen that is not clipped."—Conversations with Doolittle in Gleanings.

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The nest embodies all that is greatest in a bird's life, as the home does in man's life.—Ladies' Home Journal.

THE  
CANADIAN BEE JOURNAL

Devoted to the Interests of Bee-Keepers,

Published Monthly by

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(LIMITED)

**BRANTFORD - CANADA.**

Editor, W. J. Craig.

OCTOBER, 1903.

**EDITORIAL NOTES.**

The executive committee of the Ontario Bee-Keepers Association are arranging to send an exhibit of honey to the St. Louis Exposition. The exhibit will be in charge of the Dominion Government.

A word to beginners and others—Don't fail to make early preparations for winter and remember that plenty of good wholesome stores go a long way in successful wintering.

We have been asked the question "how much a hive of bees in proper condition for wintering should weigh" well of course that depends on the strength of the colony and whether for outside or inside wintering; would say however that a good strong colony in an 8-frame Langstroth hive without the cover should weigh at least fifty pounds.

"Last spring the editor of this Journal fumigated a set of foul broody combs with formalin gas. Foul brood was present in all its stages, except the dried scales. They

were placed on a healthy colony, the bees cleaned out the foul matter and raised perfectly healthy brood."—Ed. Rocky Mountain Bee Journal.

"We are getting more unfavorable reports regarding the use of formaldehyde for disinfecting foul-broody brood-combs. In one instant a good fumigation did not kill the young brood sealed in the cells; and if this is the case we certainly can not reach the diseased germs in sealed cells. Until we know more about it, it is not best to rely on the treatments any more than to fumigate empty cells."—Ed Gleanings in Bee Culture.

It seems to us that there must have been something radically wrong with the drug or the manner in which it was applied in the case referred to by the Editor of "Gleanings," else no brood would have come through alive.

The annual meeting of the Ontario Bee-Keepers Association will be held at Trenton in the first week of December. The Secretary has not yet announced the dates but we presume they will be Tuesday, Wednesday and Thursday, Dec. 1, 2 and 3. The programme is in preparation and will appear in our next issue.

The Ontario Association has now we believe, the largest membership it has ever had, this with the increased number of bee-keepers in the province and the increased interest in the industry bids fair for a good attendance at Trenton. Many of us are looking forward to the meeting also as an opportunity of visiting our good friend Mr. C. W. Post who is one of

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the largest and most successful bee-keepers in the province of Ontario.

The Canadian Freight List, 1903, classifies honey as follows:

	LCL	CL
Honey in glass, packed in cases	1....4	
Honey in cans, not boxed	1....4	
Honey in cans, boxed or crated	2....4	
Honey in kegs or barrels	2....4	
Honey in comb, boxed O R	1....4	

To a shipping point from here, say Winnipeg, the rates at present are:

First Class (all rail)	\$1.74
Second Class	1.48
Third Class	1.16
Fourth Class	.84
Fifth Class	.73

According to this the freight on honey in 60 lb. cans, crated, or in kegs or barrels, when "less than car load" would be \$1.48 per cwt.

"Oil in wood" and "molasses in wood" (kegs and barrels we presume) goes at third class in less than car load and fifth class in car loads.

There should not be any more risk in handling liquid honey in barrels than in handling oil or molasses and certainly much less when the honey is granulated.

### Clarifying Dark Honey.

The following interesting experiment is reported in the British Bee Journal:—

"With regard to very dark or black honey, of which I have, along with many others, a good quantity on hand this season, it may interest you to know that I gave a bottle of quite black honey to a friend of mine to experiment with, with the object of removing the blackness. He subjected the bottle of honey for about three hours to ozone from an electrical machine, and returned it to me

perfectly clear and bright. I have not gone very fully into the matter, but if in your opinion it would be of importance to the craft I would do so. I am told that the cost per cwt. is trifling.

It would appear that the effect of the ozone is to cause all the black matter to rise to the surface and then it is skimmed off."—R. D. Galbraith, London, E. C., September 24.

The experiment is certainly an interesting one, and a valuable if it can be demonstrated that the action of the ozone and electricity will make dark honey light.

The Editors of the Journal, in a commentary note, ask the writer for samples of the honey in both conditions, and we are likely to have more on the subject.

### Bee-Keeping in Manitoba.

The western edition of the "Farmers Advocate" commenting on a letter received by Mr. J. J. Gunn of Gonor, Manitoba, from an eastern bee-keeper as an example of the mistaken idea held by many that Manitoba is altogether too cold for bee-keeping and that bees would starve owing to no honey plants, says:

"Although delusion exists elsewhere in regard to the possibilities of bee-keeping in this country, and the real conditions are by no means known as they should, we do not have to go outside our own limits to find many persons who look upon bee-keeping as an industry foreign to this country. It would seem that the Manitoba Beekeepers' Association was not organized too soon. Is it not time that every one was made to know that the busy bee can gather just as much honey here as in any other clime?"

## Thoughts and ....Comments

ON CURRENT TOPICS

By a York County Bee Keeper.

CARBON-BISULPHIDE FOR  
FUMIGATING COMBS

Much as I have read about this drug in the different journals have had no chance of testing its efficacy until a few days ago. Having a few hundred extracting combs stored away at an outyard, that had been left off the hives at last extracting as there is no fall pasture, I noticed at my last visit that the moths were bothering them a little. Having nothing at my disposal but a large empty box made of matched lumber, but minus a top, I stacked the combs on the floor, placed a dish on top of them with about two spoonfulls of the drug and then turned the box upside-down over all.

Forgot to say that the combs were in an upper room of a dwelling house, and although the floor was matched, lathed and plastered, the intolerable odor of the carbon bisulphide penetrated through all and made things quite unpleasant for a while. Did it kill the moths? Believe it would kill anything that was forced to inhale the horrible stench that it emits. Nevertheless it is a handy way of fumigating combs; away ahead of the old sulphur plan.

RIPE, VS. UNRIPE EXTRACTED HONEY.

Sometime ago one of the extensive handlers of honey (beleive it was Mr. Burnett of Chicago) had a vigorous article in "Gleanings" condemning the practice of certain bee-keepers in extracting their honey unripe and putting it on the market in that condition. Mr. Burnett drew attention to the fact that through this practice, manu-

facturers had given up the use of extracted buckwheat honey; to the detriment of the sale of that article. Commenting on this, Mr. Hasty in the American Bee Journal, page 618, offers the following pertinent remarks:

"We were mighty lucky that it was only buckwheat extracted honey that got killed. Had there been no chance to discriminate I fear the big users that were bitten would have abandoned the use of all honey. And still the seller is going to continue to think that if he can make a sale he is all right. Far from being all right if he has killed a future sale. This specially affects those who retail in their own fields; We must nurse our customers instead of poisoning them. Very little indeed do many of them know about honey, and we if we understand where our bread is buttered, will post them honestly and truly, that there is a difference between ripe honey and unripe honey, and how that difference comes about—I suspect that even some of the big buyers need instruction sorely on the point."

No doubt every practical bee-keeper will sanction the foregoing most emphatically, the great trouble has been and is yet to a certain extent, that the bee-keeper who takes pains to produce an A. I. article does not always get the credit deserved. With some buyers "honey is honey," the only test being that of color; if white in color never mind if it is as thin as water. Have in mind a wholesaler who some few years ago bought a man's crop which fermented in a short time and had to be turned over for manufacturing purposes. However the next season he bought the same man's crop without asking any questions, paying the highest market price for the same.

COMPARATIVE "STRENGTH" OF SUGAR  
AND HONEY AS FOOD FOR BEES.

In answer to a questioner, Dr.

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Miller in A. B. J. advises him to allow the bees 30lbs of honey or its equivalent in sugar syrup for winter stores. He says "that will require about 22lbs dry granulated sugar, if you use sugar syrup."

This brings to my mind a conversation with a friend at the Barrie convention in which it was claimed that it took 3lbs of sugar to equal 1lb of honey in "lasting" qualities, for winter food for bees. While I very much doubted and still doubt the accuracy of this statement, yet I 'dont know' for sure, so who will give us information on this line. Some reliable authentic data on this point would be much appreciated by the scribbler of these notes, possibly some others as well.

#### DO BEES "OFFER" FOOD TO THE QUEEN?

One by one our little pet theories are being exploded by investigation. Only a few years ago we used to pity the poor bee that always died after losing its sting. Then it became an accepted fact that while such bees undoubtedly did "die," yet they probably lived as long as though they had not lost this useful "?" little organ. Then we had the sting-trowel controversy etc., etc., all in turn to be cast aside, as tried and found wanting. Now comes that scientific, hard hitting Mr. A. C. Miller who has no "respect" for "set rules" or text books: and takes away our favorite theme when talking to our wondering friends we like so much to tell how bees pay so much respect to the queen, following her around and continuously offering her food especially in the height of the breeding season. Yet Mr. Miller says: "bees never offer food to the queen, and I know whereof I speak. The bees that show their tongues are seeking food not OFFERING it. The sooner bee-keepers learn

this, the sooner will they solve several otherwise troublesome problems. "Where ignorance is bliss 'tis folly to be wise," so guess I wont watch how the bees feed one another for fear of getting in the maze so far that I cannot get out. Mr. Miller's somewhat lengthy articles in the 'Review and A. B. J. from which this short extract was quoted form interesting reading. Editor Hutchinson commenting on Mr. Miller's views, commends him in his efforts at correcting what he considers errors in our text books, but says he must expect criticism. "For instance he may be correct as to the manner in which bees usually feed one another, but I would feel better satisfied if he would explain how a caged queen gets her food unless it is offered to her. It is true as he says, that queens so caged often die; but it is equally true that they often live many days.

#### FREIGHT RATES ON HONEY.

Whats the matter with the O. B. K. A. dealing with this matter, this coming convention? It seems to me an injustice that the honey producer has to pay about one third more freight charges on his product than does the shipper of other more bulky materials. If the railway companies took any extra risk in handling honey, well and good. However such is not the case as I noticed when shipping in bbls. this fall that each shipping bill had written across the face "at owners risk of leakage," why extracted honey should be classed as 2nd class freight, while applas, flour etc. go as 3rd class is something not clear to me. Possibly if representations were made to the different companies explaining the situation, some redress of the injustice might be obtained. Any way it is worth trying for.

### Prevention of Swarming and Increase.

Since different bee-keepers are running out apiaries, the question arises how to manage them during swarming time. If we let the bees swarm and hire a boy for watching and catching the swarms, we have considerable expense and can be sure that this boy will sleep somewhere in the shade just when a swarm is coming out and going off.

Since I have kept bees, now for about 40 years, I have tried to avoid this watching for swarms by making them artificially, just a little earlier than the colonies would swarm naturally. Of all the different ways to make artificial swarms, I found that brushed swarms on the old or on new stand are the best, because they are quite similar to natural swarms; in some respects even better. In this way I managed an out-apiary from 1882 to 1893 for comb and extracted honey, and lost very few swarms. At that time I increased the number of my colonies; when I did not want more colonies I united two of the weaker colonies after the honey-flow or in the fall. In some localities and some years I still think that it is the best plan and right here I want to say that a great deal depends upon the locality and other circumstances as to which management is the best.

In my locality, for instance, the bees commence to breed early; at the end of March some of the colonies in 8 or 10 frame hives are swarming already, but the main honey-flow from horsemint commences generally at the end of May. During this flow we expect no swarms at all. In other localities the swarming time commences just before the honey-flow and continues all through it. This makes a big difference in the management to prevent swarming. Now, I will tell how I do it. I use very large

hives in the spring, and they prevent swarming to a great extent. When you have used them five or six years you will find out that your bees will be less inclined to swarm. In some years, very favorable for brood-rearing in the spring, a large number of the colonies would nevertheless swarm, but they will swarm at least a month later than those in small hives. Once in awhile I go over my colonies and if I find one very strong I remove the shallow stories to see whether the colony has comparatively much brood. If I find brood that would fill more than two stories (an equivalent to about 10 Langstroth frames,) this colony is swarmed or divided artificially.

Now, you will say, We want you to speak of a plan, or some plans, to prevent swarming and increase. Well it is this way: The plan consists of two parts. At first a brushed swarm is made and then the second part of the manipulation, all the bees which will afterwards hatch from the brood are given back to this swarm at the proper time; and this can be done in different ways. If we produce extracted or bulk comb honey the plan is more simple and I will explain it first.

One thing I have to mention. If a brushed swarm is made or a natural swarm is used just at the beginning of the main honey-flow for producing comb honey in sections, I always give starters only in the brood-frames and full sheets of foundation in the sections. For extracted honey I prefer empty combs or full sheets of foundation in the brood-chamber. I think you know the reason of this. Now, to our management.

FIRST PLAN.—If a colony is ready to swarm and the honey-flow commences in about two or three weeks and extracted honey is to be produced, I set a new brood-chamber

on the old stand with one comb containing open brood and the queen; the balance full sheets of foundation, a queen-excluder on top and over this all the stories of the colony in the old order. If I can't find the old queen I brush off the bees from the brood-combs into the hive, or in front of it, till I am sure the queen will be under the excluder. This manipulation keeps this colony from swarming for three or four weeks, and consequently it depends upon the locality whether it is sufficient or not.

**SECOND PLAN.**—We need a simple implement for this plan. It is a board like a Porter escape-board, but in place of the bee-escape it contains two square holes about 2 x 4 inches and wire screens nailed on both sides of the board over these holes, so the bees can't feed through. On one end, about 2 inches of the rim is cut out for an alighting hole. These double-wire screens can be used in the apiary for different purposes.

Now, we again make a brushed swarm on the old stand with the old queen, a double wire-screen on top, the alighting-hole in the front and on top of this all the brood-frames with sufficient number of bees for nourishing brood. A queen-cell from selected stock can be given to this colony. When this queen is hatched and fertilized the wire-screen is removed, and which queen is selected, we allow it to be fought out by the queens themselves. In nearly all cases the young queen will kill the preferred one and this colony will not swarm any more the same year. This plan is the invention of Mr. M. R. Newhne, of California, which he described to me in a private letter.

**THIRD PLAN.**—If we wish to keep our old queen we can use another method. We set the hive with the brood-combs on the side of the brush-chamber and give a ripe queen-cell

if none is on the combs. This colony is weak and the first young queen that hatches will destroy the other queen-cells. In a week after brushing she will have done this job and we will see it, if any queen-cell is found with the side torn open by the bees. Now, in the evening, we simply change the places of the two colonies and one hour afterwards, when the bees have ceased to fly, we change places again. What's that for? Well, in the evening many field-bees from the swarm will enter the hive with the virgin queen; they are used to a fertile queen and will kill the young one during the night in nine cases out of ten. The next morning we set this hive on top of the swarm, and a wire screen between the two, which can be removed about six hours afterwards.

These plans can be used for the production of extracted honey. The old brood-combs, which are now on top of the swarm, will be filled with honey, which can be extracted. For the production of section honey we can use similar plans, but we have to overcome some difficulties.

The forced-swarm method for section honey has a double purpose. First, to prevent swarming, and, second, to have the colony in the right condition to start to work in the supers at once. This is secured by the empty brood-chamber. There are no empty cells in which honey could be stored, so it must go into the supers. For the first purpose we would not need any manipulation because during the main honey-flow the bees will not swarm here. So it is plain the forced-swarm method must be used just at the beginning of the main honey-flow. Probably we can keep our bees from swarming before this time by using very large hives and by spreading the brood once in awhile, or in some localities where

the bees swarm just at that time, we can use the plan I recommended about four or five years ago.

**FOURTH PLAN.**—A brushed swarm is made as before, and the parent colony set at the side of it. The hatching bees are afterwards united to the swarm by using the well-known Heddon plan of preventing after-swarms or transferring. All this is old. If anything is new, it is that these old manipulations are used for another and new purpose.

**FIFTH PLAN.**—For this purpose, to add the bees hatching from the brood to the swarm, the bee-keepers in Colorado use another way. Over the top of the brushed swarm are set one or two section-supers, then the double wire screen-board, and over this the brood-combs with some bees. Now a canal is made out of three laths, which leads from the upper alighting-hole down near to the lower alighting-hole. The upper end of this canal is closed. The bees from the upper hive have to go down and when they return to the hive they will mostly enter the lower hive. In three weeks all the bees have hatched and can be united with the swarm and the empty combs used elsewhere or melted into wax. I have some objections to this plan, but the Colorado bee-keepers say it works all right. Mr. F. L. Thompson described this way in the Progressive Bee-keeper some time ago.

**SIXTH PLAN.**—Kuehne's plan, too can be used for section honey, with a little variation.

**SEVENTH PLAN.** Some of our Texas bee-keepers prefer smaller hives and their bees commence to swarm one or two months before the main honey-flow. They have weaker colonies and weaker swarms. What would be the best plan for producing comb honey and avoid all increase?

I would use hive-stands on which I

could place two hives close together. In the spring we have only one hive on every stand. The swarms, natural or artificial, are set close to a parent colony (not to that from which the swarm was made, but to one which was swarmed some days before this). When the main flow is beginning and we have a single hive on a stand, it is a colony which has not swarmed. It can be manipulated according to one of the given plans. If we have a pair of hives on another stand it is a swarm and a parent colony. I would manipulate them in the following way:

We remove both colonies from the stand and set the brood chamber of that colony, which has the young queen, in the middle of the stand, so it will catch the field-bees of both colonies. In this brood-chamber we will crowd the brood combs which contain the most brood. If more brood combs are in this colony we give them to the other colony with the queen, but without bees. Now we put the section supers on, with a board between them and the brood chamber; on top of this a board with double wire-screens, as just described, and then the other hive with brood combs and all. The Colorado canal can be used or not. The field-bees of the upper hive will enter the lower hive. The next, or in a few days afterwards we kill or remove the old queen from the upper hive and now the colonies are in the same condition as in the other plans, and the young bees are united with the main colony in one of the given ways.

**EIGHTH PLAN.**—Before I describe will mention the plan by which the bee-keepers of Colorado try to get rid of foul brood. When the honey-flow commences, the bees are shaken into an empty hive and treated on the McEvoy plan. All the brood-combs are given to another colony (a

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one will do), and here they are storied from several colonies as high as a man can reach. Twenty-one days afterwards all the brood has hatched and now this colony, too, is brushed or shaken from the combs, the honey is extracted, and if the fumigating of these empty combs with formalin gas will prove to kill the spores of the foul-brood bacillus, we will have a true remedy for this pest. But do not forget that all the operations must be done very carefully.

**NINTH PLAN.**—If the colonies are in pairs close together when the honey-flow commences, we may unite them for comb-honey production and secure a good crop, even if they are not very strong. The queen of one colony is removed, killed or kept with one brood-frame and adhering bees in a nucleus. Now the bees of both colonies are brushed and shaken into an empty hive on the old stand, as described, and the brood-combs manipulated in the same way.

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## Wintering Bees.

By J. J. GUNN, MANITOBA.

To winter bees successfully, one should begin by preparing for it early. After the close of the honey season, but while the weather is still warm, the hives should all be examined and the brood nests reduced to the number of combs the bees can cover well. Each hive should be weighed to make sure that it contains enough honey to keep the colony within it safely through the winter and well on into the spring. A colony that covers eight combs will require more stores than one covering only six. This is the time when it pays to be liberal.

Honey left in the hive in excess of what may be required will not be lost, and it is always better to be sure than sorry.

I have had strong colonies come through the winter with a loss of less than ten pounds, while at other times the loss would be over twenty pounds. How late brood rearing is kept up in the fall and how early it begins in the spring has much to do with this. Again, when weighing the bees into the cellar about the first week in November, we sometimes find the weights agreeing pretty well with those of September, while other seasons will show a loss of ten pounds or more in the same time. It is wise, therefore, when weighing for the first time to leave at least thirty pounds of honey to each strong colony. If this weight is lacking, it is better to make it up by feeding sugar syrup than to give combs of honey and so have more comb in the hive than the bees can cover. This is the time, too, to unite weak colonies. Everything of a preparatory nature should be done during September, and bees left alone till weighed into the cellar in November, or when the winter appears to be setting in.

Coming to the question of wintering properly, the cellar seems to be the most suitable place. I am aware that bees have been successfully wintered outside in Manitoba and the Territories, that some have wintered them in garrets and others in houses built for the purpose with double walls and sawdust filling; but the cellar seems to be the favorite place, and doubtless will be found to be the best for our climate, if for no other reason than that it is less affected by sudden changes of temperature than any place above ground can possibly be.

If the cellar is properly ventilated and of a temperature well above

freezing—say about forty-five—bees will winter finely if not stuffed around in their hives so as to prevent the circulation of air and the escape of moisture from the cluster. Many people have such an idea of the cold in Manitoba that they can't realize that a room in which the thermometer stands at forty-five above is as warm as a room of the same temperature in any other Province, and so they stuff and pack around their bees and literally kill them with mistaken kindness. In such a cellar all that is necessary is to make it as easy as possible for the air to circulate.

My cellar is under the dwelling house, and is walled with stone. From near the floor a one and a half inch pipe passes upward beside a heating stove in the dining-room, and enters the stovepipe just above the stove, thus creating a forced circulation of air in the cellar at all times. When placing the hives in the cellar the covers are removed and nothing left above the bees but a cloth, woollen, if possible, but often a piece of heavy but porous sacking or burlap. A piece of old carpet does well for this. Hives with movable bottoms should also be raised from the bottoms at the back. The first row of hives is placed on a bench about sixteen inches high. Across each of these are laid slats one inch thick, on which to set the next row. In the same manner a third or even a fourth row may be placed.

Once in winter quarters there is but one thing the bees require, that is to be let alone—absolutely alone—till it is warm enough for them to fly; and unless noisy and fouling the fronts of the hives to be let alone even then till the willows bloom.—Farmers Advocate.

Advertise in the Canadian Bee Journal.

### More about Shook Swarming

One great drawback to the ordinary method of brushing and shaking swarms is that large numbers of bees instead of entering the new hive on their home stand, will take wing and join themselves to other colonies in the yard. This not only seriously depletes the force of the shaken swarms but helps to induce swarming in the other hives, whose numbers are thus suddenly augmented and with bees that have already contracted that fever of unrest which culminates in swarming. As a result the whole apiary is inoculated with the desire to swarm and for the time being, the evil intensified rather than repressed.

A plan which obviates all this trouble has been practised for a number of years by Herman Rauchfuss, of Denver, Colorado. That the plan is a success may be inferred from the fact that a whole apiary once treated in this manner by Mr. Rauchfuss gave the phenomenal average of 175 pounds of comb honey per colony. The usual plan of preparation is followed up to the point of shaking when instead of dumping the bees on a pile in front of the new hive, a single frame of brood containing the queen and adhering bees is placed therein, the super adjusted and the hive containing the remaining bees and brood is set on top. The entrance to the old hive should face rear and should be closed so that no bee can get out. Bore a half or three-quarter inch hole in the rear of this hive and affix to it a chute made by nailing together four pieces of lath, which should terminate about an inch above the alighting board of the new hive. The bees will pass out readily through this chute, but

when they return laden from the fields they will enter the new hive in a day or two all the flying bees will have joined the new hive and in twenty-one days practically all the young bees will have come out and entered the new hive. By this plan the transfer is effected without any excitement, the probability of absconding is eliminated and there is no loss of unsealed brood. The evil features of shaking are entirely done away with, while all its virtues are preserved and utilized.

The foregoing is the plan outlined by Mr. Rauchfuss and we note that E. F. Atwater, of Boise, Idaho, uses and recommends practically the same thing. In our own practice, instead of placing the old hive on top of the new one, we would place it alongside with the entrance facing opposite, and connected by a chute as aforesaid. It would then be less in the way and not have to be lifted off every time the super was examined. Speaking in regard to the proper time to make forced swarms, F. L. Thompson has this to say in the "Progressive" for August:

"It seems to me not an essential condition that the flow has actually well started, if a brood comb containing honey is given to the swarm, to guide them along to the flow, but merely that the prospects are good. When the conditions are favorable, many of the strongest colonies will have eggs in the queen cells before the alfalfa has bloomed, and in my experience such colonies do decidedly better when treated early. Besides, there is danger of the yard becoming depopulated by the swarming fever if any considerable portion is treated much later than the conditions will bear."

This accords exactly with our own experience. A week to ten days before the alfalfa flow is about the pro-

per time to begin. Usually, when the season is normal, the bees will indicate the proper time themselves by starting queen cells a week or two in advance of the main flow.

Mr. Thompson says further in relation to the subject of shook swarming:

"Not only do localities differ very widely but bees in the same locality in different seasons require very different treatment. This season in my locality the bees were a month late in development. Hence I made only a few artificial swarms, by the automatic method, giving them a frame of brood as usual. But an unusual proportion of these made swarms swarmed again after building queen cells, and were otherwise unsatisfactory, especially in building great quantities of drone comb, though the queen's space was contracted. Divisions by another plan, giving drawn combs, to both parties a little brood to the old queens and most of the brood to the new queens, bought for the purpose, leaving the old queens for the old stands, were much more satisfactory. In fact, a few natural swarms hived on combs did much better than natural swarms hived on starters, thereby completely reversing the rules I found to work hitherto. Therefore the old story must be repeated again, not rules, but principles: never do bee work by routine but always keep principles in mind, yet not trust them exclusively, either, but be prepared to meet the unexpected." — The Rocky Mountain Bee Journal.

Talent is aptitude for a given line. In the old Bible significance it is power intrusted to one for a specific use. Everybody has some talent worth cultivating. The more we use what we originally have, the greater becomes its value. Ladies' Home Journal.

### An Act Respecting the Right of Property in Swarms of Bees.

R. S. O., 1897, Chap. 117.

1. Bees living in a state of freedom shall be the property of the person discovering them, whether he is or is not the proprietor of the land on which they have established themselves.

2. Bees reared and kept in hives shall be private property.

3. Where a swarm of bees leaves a hive the owner may reclaim them, so long as he can prove his right of property therein, and shall be entitled to take possession of them at any place on which the swarm settles, even if such place be on the land of another person, but the owner shall notify the proprietor of such land beforehand and compensate him for all damages. If a swarm settles in a hive which is already occupied, the owner of such swarm shall lose all right of property therein.

4. Any unpursued swarm which lodges on any property whatsoever, without settling thereon, maybe secured by the first comer, unless the proprietor of the land objects.

5. If the owner of a swarm of bees declines to follow the swarm and another person undertakes the pursuit, such other person shall be substituted in the rights of the owner, and every swarm which is not followed shall become the property of the proprietor of the land on which it settles, without regard to the place from which it has come.

### An Act for the Suppression of Foul Brood Among Bees.

R. S. O., 1897, Chap. 283.

1. — (1) The Ontario Bee Keepers' Association shall at each annual meeting or the directors of the said Association shall, if in the interval between two annual meetings the occasion arises, appoint an Inspector of Apiaries and a Sub-Inspector for the Province of Ontario, and the said Inspector and Sub-Inspector shall be elected by the vote of the majority of the members of said Association present at the annual meeting or the vote of the majority of the directors as the case may be. Any annual meeting may delegate the annual appointment of an Inspector and Sub-Inspector to the newly elected Board of Directors.

(2) The said Sub-Inspector may, when so directed, as hereinafter provided,

perform all the duties and exercise all the powers in this Act directed to be performed or exercised by the Inspector and the provisions of this Act relating to the Inspector shall be deemed to apply to and include the said Sub-Inspector.

(3) The Inspector or Sub-Inspector entering on any premises in the discharge of his duties shall, if so required, produce the certificate of the President of the said Association that he has been appointed as such Inspector, or Sub-Inspector, as the case may be.

2. The said Inspector and Sub-Inspector shall hold office for one year from the date of the annual meeting at which they were appointed, or if they are appointed by the directors, then until the next annual meeting after such appointment and shall be eligible for re-election, but the said Inspector or Sub-Inspector may at any time, subject to the approval of the Lieutenant-Governor in Council, be removed from office by the directors for neglect of duty or other sufficient cause, and in case of such removal the directors shall without delay appoint a successor.

3. The said Inspector shall, whenever so directed by the President of the Ontario Bee Keepers' Association, visit without unnecessary delay any locality in the Province of Ontario, and there examine any apiary or apiaries to which the said President may direct him, and ascertain whether or not the disease known as "foul brood" exists in such apiary or apiaries, and wherever the said Inspector is satisfied of the existence of foul brood in its virulent or malignant type, it shall be the duty of the Inspector to order all colonies so affected, together with the hives occupied by them, and the contents of such hives, and all tainted appurtenances that cannot be disinfected, to be immediately destroyed by fire under the personal direction and superintendance of said Inspector, and after inspecting infected hives, fixtures, or handling diseased bees, the Inspector shall, before leaving the premises, or proceeding to any other apiary thoroughly disinfect his person and clothing, and shall see that any assistant with him also thoroughly disinfects his person and clothing, where the Inspector, who shall be the sole judge thereof, is satisfied that disease exists, but only in milder stages, and in its incipient stages, and is believed or may be treated successfully, and the Inspector has reason to believe that it may be entirely cured, then the Inspector

may, in his discretion, omit to destroy or order the destruction of the colonies and hives in which the disease exists.

**4.** The Inspector shall have full power, in his discretion, to order any owner or possessor of bees dwelling in the box-hives, in apiaries where the disease exists (being mere boxes without frames), to transfer such bees to movable frame hives within a specified time and in default of such transfer, the Inspector may destroy, or order the destruction of, such box hives and the bees dwelling therein.

**5.** Any owner or possessor of diseased colonies of bees, or of any infected appliances for bee-keeping, who knowingly sells or barter or gives away such diseased colonies or infected appliances, shall, on conviction thereof before any Justice of the Peace, be liable to a fine of not less than \$50 or more than \$100 or to imprisonment for any term not exceeding two months.

**6.** Any person whose bees have been destroyed or treated for foul brood, who sells or offers for sale any bees, hives or appurtenances of any kind, after such destruction or treatment, and before being authorized by the Inspector so to do, or who exposes in his bee-yard, or elsewhere, any infected comb, honey, or other infected thing, or conceals the fact that said disease exists among his bees, shall, on conviction before a Justice of the Peace, be liable to a fine not less than \$20 and not more than \$50 or to imprisonment for a term not exceeding two months and not less than one month.

**7.** Any owner or possessor of bees who refuses to allow the Inspector or his assistant or assistants to freely examine said bees, or the premises in which they are kept, or who refuses to destroy the infected bees and appurtenances, or to permit them to be destroyed when so directed by the Inspector, or who, on the complaint of the Inspector, is summoned before a Justice of the Peace, and on conviction, shall be liable to a fine of not less than \$25 and not more than \$50 for the first offence, and not less than \$50 and more than \$100 for the second and any subsequent offence, and the said Justice of the Peace shall make an order directing the said owner or possessor forthwith to carry out the directions of the Inspector.

Where an owner or possessor of

bees disobeys the directions of the said Inspector, or offers resistance to, or obstructs the said Inspector, a Justice of the Peace may, upon the complaint of said Inspector, cause a sufficient number of special constables to be sworn in, and such special constables shall, under the directions of the Inspector, proceed to the premises of such owner or possessor and assist the Inspector to seize all the diseased colonies and infected appurtenances and burn them forthwith, and if necessary the said Inspector or constables may arrest the said owner or possessor and bring him before a Justice of the Peace to be dealt with according to the provisions of the preceding section of this Act.

**8.** Before proceeding against any person before a Justice of the Peace, the said Inspector shall read over to such person the provisions of this Act or shall cause a copy thereof to be delivered to such person.

**10.** Every beekeeper or other person who is aware of the existence of foul brood, either in his own apiary or elsewhere, shall immediately notify the President of the Ontario Bee Keepers' Association of the existence of such disease, and in default of so doing shall on summary conviction before a Justice of the Peace be liable to a fine of \$5 and costs.

**11.** Upon receiving the notice in the preceding section mentioned or in any way becoming aware of the existence of foul brood in any locality, the said President shall immediately direct the said Inspector to proceed and inspect infected premises; but where the person giving such notice is unknown to the President or there is reason to believe that the information in said notice is untrustworthy, or that the person giving such notice is actuated by improper motives, then the President may require the person giving such notice to deposit the sum of \$5 with the President as a guarantee of good faith, before the said notice is acted upon, and if it proves that said notice was properly given, then the said deposit shall be returned to the person giving such notice, but otherwise the said deposit shall be forfeited to the use of the said Ontario Bee Keepers' Association.

**12.** The said Association shall include in its annual report to the Minister of Agricultural a statement of the

Inspector's work during the proceeding year, which statement shall include the number of colonies destroyed by order of the Inspector and the localities were found, and the amount paid to him for his services and expenses for the proceeding year.

13. The directors of the said Association may from from time to time make such by-laws and regulations for the control and guidance of the Inspector in carrying out the provisions of this Act as they may deem necessary, and the said directors shall also by by-law fix the amount of the remuneration of the said Inspector and Sub-Inspector, but all such by-laws and regulations shall be subject to the approval of the Minister of Agricultural.

#### An Act for the Protection of Bees.

R. S. O., 1897, Chap. 282.

1. No person in spraying or sprinkling fruit trees, during the period within which such trees are in full bloom, shall use or cause to be used, any mixture containing Paris Green or any other poisonous substance injurious to bees.

2. Any persons contravening the provisions of this Act, shall, on summary conviction thereof before a Justice of the Peace, be subject to a penalty of not less than \$1. and not more than \$5, with or without costs of prosecution, and in case of a fine or a fine and costs being awarded, and of the same not being upon conviction forthwith paid, the Justice may commit the offender to the common goal, there to be imprisoned for any term not exceeding thirty days, unless the fine and costs are sooner paid.

#### A Tale of Three Toads.

A gentleman living in Denver has discovered that a toad may have as keen a sense of locality as a dog or a cat. He has been much interested in bees, and has several hives near his house. Of late, however, his attention has been quite diverted from the bees to four good sized toads that have taken up their abode under one of the larger hives. By watching them closely he discovered that position was decidedly well taken. When the bees come in laden with honey they are apt to hit the hives and fall to the ground. Then Mr. Toad's active little tongue darts out and the dazed little bee meets an unexpected doom. This, of course, was very gratifying to the toad, but very hard on the bee. The gentlemen took three of the toads, painted them a bright yellow, carried them three-quarters of a mile from the house and left them in the road. On the evening of the second day three rather weary, yellow-streaked toads resumed their positions under the hive, ready for the next day's slaughter. But their fine sense of location had to be sacrificed in the interest of the bee business—they were disposed of. But it is evident that a toad does his hopping in an intelligent manner.

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