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July, 1899

New Series:

Vol. 7, No. 1

Whole No. 413.

# Canadian Bee Journal



R. F. HOLTERMANN.

EDITOR.

PUBLISHED MONTHLY

...BY...

GOOLD, SHAPLEY & MUIR CO.

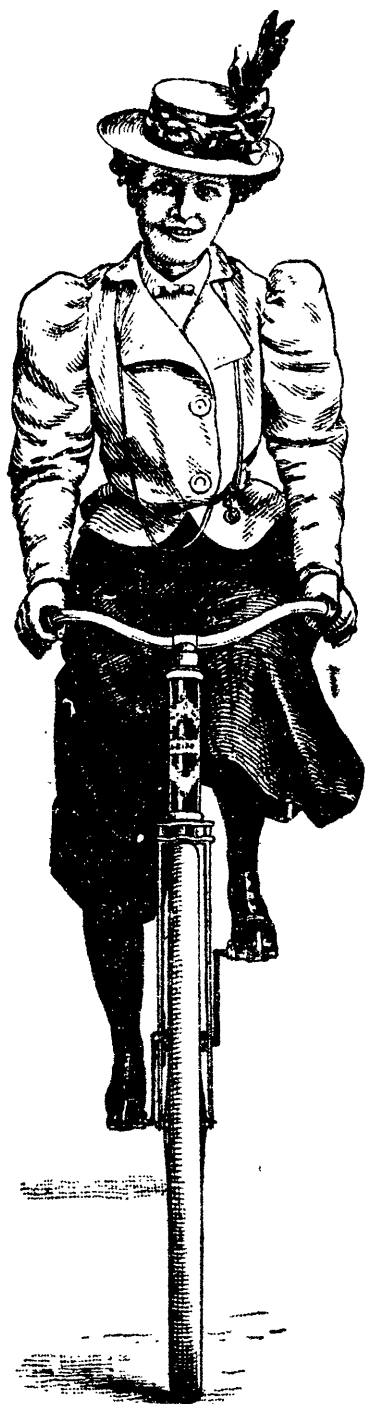
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BRANTFORD CANADA.

## KEEP YOUR TEMPER.

Be good-tempered. It pays in every way; it pays if you are an employer; it pays if you are an employee; it is profitable in every walk of life. And this is taking the most selfish view. You owe it to others to be good-tempered; you owe it to your own manhood, to your own self-respect. In making others comfortable, you are making things agreeable for yourself; you are gaining and keeping goodwill, which may be of value and help to you hereafter; you are accumulating a capital of popularity and good report which may be used to advantage, perhaps at a critical time. Good temper is a great factor in success.—Business.

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# Hop along

on other bikes

## Can't catch me

upon the likes

ON ANY BUT

# A Red Bird...



The Goold  
Bicycle Co.  
Limited

Brantford,  
Ont.

# CANADIAN BEE JOURNAL

NO

PUBLISHED MONTHLY.

NEW SERIES  
VOL. VII, No. 1.

BRANTFORD, ONT., JULY, 1899.

WHOLE No.  
413

The season has arrived when Bee-Keepers should decide as to whether they will try and show at the Paris Exposition or not. We propose to put the case fairly before Canadian Bee-Keepers. As we understand, the Canadian advantages to be derived from an exhibit are of a two-fold nature. First, taking the Exhibition as a whole, Canada will doubtless go to considerable expense in making the Exhibit. We have always taken this stand, that any public exhibition, and especially one upon which the eyes of the world will rest, must be gone into whole souled, energetically, thoroughly, and well. The Exhibition, and especially a Canadian Exhibition, must be made to command attention, admiration, and even respect. Unless Canada and the Dominion Government avails herself to the fullest extent of her resources, she will not, and those in authority will not have done justice to the country, its people, and resources.

From a Canadian standpoint the object of the Exhibition and the justification for an expenditure of money must be, first, to attract capital and desirable settlers to Canadian shores; and secondly, to increase the demand for Canadian agricultural, mineral, forest, and manufactured products. That Canada can distinguish herself in exhibiting all these we know and it does not require affirmation on the part of the Canadian Bee Journal. How best to carry out the above object requires very long and

careful consideration coupled with experience. That the desired object may be carried to a successful issue every true Canadian citizen should and must earnestly desire. One of the points to bear in mind is to exhibit articles which are of superior quality, and which, owing to their novelty, or owing to the novelty of the Exhibit, will draw the attention of visitors.

A large Honey and Wax Exhibit is an unusual exhibit, and particularly does this hold good in Europe. Our Canadian honey is of a quality second to none in the world; we believe past experience, and, judging from the many samples of honey we have seen, that in this class no country can make the showing Canada can. It is in addition generally and popularly conceded that a land which can produce large quantities of honey has climatic conditions desirable for agriculture and for the comfort of living. An exhibit of honey not doing justice to this branch of agriculture would, in our estimation, be worse than no exhibit at all: it would be misleading and unjust. For the same reason, much as we were urged by the Trans Mississippi authorities, when we found that the Government would not make a special exhibit of honey, we did not believe it advisable to urge through the columns of the Canadian Bee Journal that any be made. If a large exhibit of honey is made having in it representative exhibits not only from Ontario but from Quebec, British Columbia, New Brunswick, Nova Scotia, Prince

Edward Island, Manitoba, and North West Territory, it would be a good thing for every portion of the Dominion. All of these Provinces can produce a fine quality of honey: we have seen choice samples of honey from all these portions of the Dominion, and to show honey from some of the newer of the districts would be to the distinct advantage of such districts, and of course Canada as a whole. But, granting that Ontario only goes in, the other portions of the Dominion must then lose a proffered and desirable opportunity they have for publishing their resources to the world, but we believe Quebec Bee-keepers and the Bee-keepers of many other portions of the Dominion are quite ready to do justice to the honey in their locality. In any case Ontario is quite able to make a creditable exhibit of honey at Paris.

We now come to Industrial benefits. We have been trying to find out through the Dominion Minister of Agriculture the duty on honey going into France; so far we have not secured the information, but unless we are mistaken it is comparatively heavy and there is not much prospect of disposing to advantage our honey to French buyers. For the same and other reasons we are not likely to find an outlet for Canadian surplus honey in France; but, France is not far from England and Scotland, buyers will certainly visit the Exposition, and if the Honey Exhibit is of the right quality, magnitude, etc., and, if by notices sent out to the press during the Exposition, the exhibit is kept before the public, then an advantageous chance of selling the honey will open up, and in addition it should place those exhibiting in touch with many British buyers. The honey must of course be put up properly and it must be kept in a liquid and attractive form, and that liquifying must be done in the most careful manner to not injure the quality. Every Bee-keeper knows that in five minutes the choicest honey may, in liquifying, be irreparably injured. I

take it for granted that every exhibitor will be furnished with a list of visitors enquiring about prices, etc., of Canadian honey; in fact, and in short, with a list of every probable and actual buyer and that those not exhibiting will not be furnished with such a list. We understand that all correspondence will have to go through the hands of either the Honorable Sydney Fisher, Minister of Agriculture, Ottawa, or Professor J. W. Robertson, Commissioner of Agriculture, Ottawa. Anyone may correspond with the above named gentlemen without costing anything for postage when writing. Postage need not be put on the letter but mark it in the left hand corner of the envelope "Free." On another page in this issue will be found a communication from Mr. Brown, Pres. of the Ontario Bee-keeper's Association. We do not know how the Government will deal with this matter, we believe free transportation and free glass in which the honey will be exhibited has been promised, and we may rest assured that the Government will do their share to make the Honey Exhibit all that it should be. Another important point: The awards will not be as at the Chicago Exposition. An award given on all honey reaching a certain standard or merit, but it will be given on the best, and only a few medals will be given, we believe a Gold, Silver, and Bronze medal. There will be but few proud people, but the recipients will indeed be able to congratulate themselves.

\* \* \*

The April 15th number of *Gleanings* has an editorial upon the subject of bleaching comb honey. A portion of it reads as follows: "I received a note from Mr. Byron Walker, who seems very confident that he has found a process that will accomplish this result." We have often thought of the above, and the possibility of doing some-

Bleaching  
the Surface  
of Travel-  
Stained  
Honey.

thing in the direction indicated. Sulphur bleaching has suggested itself, and should we hear of nothing better, will give it a trial. We understand much dried fruit is bleached in this way.

## HONEY.

HARRISON WATSON, Curator of the Canadian Section Imperial Institute.

The unsatisfactory consequences of sending over honey impregnated with a mint flavour, in opposition to the advice of experts here has had one good result in teaching Canadian shippers what to avoid. As was pointed out, the appearance of the samples originally sent over was eminently satisfactory, but flavors such as mint or eucalyptus are fatal to profitable returns. The Department of Agriculture gave this defect of the mint flavor attention, and several shipments of clover honey sent over this season have given very encouraging results. As there was a considerable production of honey in Canada last season, the outlet offered by Great Britain is receiving attention, and as I write a Montreal house is about to send over a lot of white clover to a Liverpool dealer.—From Report of the Department of Trade and Commerce of Canada for the month of March 1899.

[We can hardly allow the above to pass without comment. The Gould, Shapley & Muir Co., Limited, sent an exhibit of Canadian honey to the Imperial Institute. This was followed later by a shipment which upon arrival was claimed to have a minty flavor. It was in England for over a year (we do not remember the exact time) some of Prof. Robertson's officers examined the honey and stated that they could not detect any minty flavor. The writer inspected every can of the honey before it was sent to England, with the exception of two lots lettered and described that it was clover honey. Our bee-keepers will find it difficult to believe that there is mint in Ontario honey. Such a honey is not known to Ontario Bee-keepers.—Ed.]

## THE NEW HONEY

Some Bees not Allowed to Sip the Nectar of Flowers of Their Choice.

—Daily Free Press, London.

Honey is enjoying a renewed flavor. Men of wealth and leisure are testing and experimenting with the different kinds of honey, and wrinkling their brows over the problem of producing what seems to them the most desirable flavor during the coming summer.

For the bee is no longer allowed to pursue his own sweet peregrinations and sip of the nectar of flowers wherever he chooses. Honey made in this promiscuous way is much too ordinary. His actions are restricted and guided. As a result, such honey as never was tasted before is tickling the palates of many. If it is the white sweet clover flavor that has gained favor with the epicure, he goes systematically to work to produce it; and plants a large plot of ground, perhaps half an acre, with this particular kind of clover. He has it carefully kept from weeds, or any other variety of clover that might endeavor to find a footing there. The whole bed is enclosed and roofed with a fine wire netting, and the beehives are then placed within the inclosure. From the bee's life, therefore, the spice of variety is plucked, and try as he will he can produce none other than white sweet clover honey. In flavor it is very delicate and almost white in color.

Yellow sweet clover honey is preferred by others. The flavor is slightly stronger than that made from the white variety, and its color is a deep yellow. Then there is the honey that is made from thistles and milkweeds: it is amusing to hear producers of such flavors tell of their tribulations in making these wayward plants grow within their restriction. Some of the wild flower honey is almost black in color, and the flavor is certainly very different from what it was in the days when honey was honey and that fact settled the question. It is almost verging on the indiscreet to mention buckwheat honey nowadays, although it is still acknowledged to have wonderful "staying properties."

[Bee-keepers will smile at the above, any yet it is a sample of Bee Literature all too common at the present day; not

alone on bees and honey, but probably in every other line. At least so the bee-keeper thinks, and it makes him receive with extreme caution anything in print. To put anything in the press upon the subject of bees and honey is always noted with pleasure by bee-keepers and we know of instances where this class encourages and supports papers for no other reason. Articles should, however, be written by competent men and women, not persons who have not the least knowledge of the subject, as is only too manifest in the above article. The article referred to has evidently been written and set up in plate for any paper willing to take it, and the Free Press will only be one of many inserting it.—Ed. C. B. J.]

### How May One Secure Swarms of Equal Strength.

Translated from the Munchener Bienen Zeitung.

In earlier days, when we knew nothing of rational bee-keeping the bee-keeper who was considered the "Bee-King" was the one who secured the first or earliest swarm, and he pointed to himself with triumph as a particularly competent bee-keeper. He was honored and envied by the less lucky of the fraternity. Today a change has taken place. At the present time no one asks "When did you receive your first swarm?" but "When did you receive your first and your last swarm, and how long did the swarming period last?" In case where a swarm issues extraordinarily early, say by the middle of April and the last swarm by the end of June or even in July, in such a case one can rest assured that the bee-keeper does not understand his business. The bee-keeper shows his skill not in extraordinarily early swarming, but by having all his swarms in the beginning of the heavy flow, and in the shortest possible time, say during a period covering not more than eight to ten days.

In Germany it is general to look upon June as the ideal month for swarming, and it is a mistake to consider it a triumph

in bee keeping to receive a swarm in April. That is, if individual swarms are received and the other swarms are not ripe for swarming, it is then only an evidence of the extraordinary goodness of the one colony that it should of its own strength bring itself to this pitch, but with a competent bee-keeper this does not take place whether he works with the movable frame hive or otherwise. His motto must be: Neither extraordinarily early or extraordinarily late swarms and if possible a short swarming season.

How tedious a long and spun out swarming season is. What is to become of that swarm, what of that colony, when the former does not appear until the end of the honey flow? The bee-keeper is managing poorly when he has individual colonies which reach the swarming impulse early when others are still weak; where he, for instance quietly looks on allowing one colony to well fill fourteen to sixteen frames and others cover only six to eight frames. How then is the bee-keeper to arrive at the goal of having his swarms at the right time and to bring them out within a short swarming period.

The skill lies in his keeping back those swarms which early arrive at the necessary swarming strength and with the material taken from them strengthen those which are weaker.

Let us now turn our attention to those colonies which by their own exertions arrive at a condition which would lead to premature swarming. These it is necessary most energetically to keep back. This must be accomplished by allowing them only to spread over from eight or nine frames, if the room for brooding be more increased late swarming might unfortunately be brought about. Should the aforesaid colony later, show signs of too early swarming it must be prevented from doing so by taking from it brood frames and giving in their place artificial comb or wax. The latter however when even only a moderate season is expected, because they would otherwise not be filled. The brood taken from this swarm must be given to weaker swarms being careful never to give any colony more than they can well cover. Bees may also be removed from strong swarms and given to those which are weak. So much for the preventing of swarming by taking away brood and bees; it is to be remembered, however, that only ripe brood, that is brood ready to hatch, should be removed.

By this method of keeping back strong colonies the material for building up

weaker swarms is gained, thus bringing them to a condition for seasonable swarming. As has been already intimated care must be exercised not to introduce more brood into any colony than that colony can easily cover, and this brood must always be placed in the centre, never at the end of the brood frames, otherwise great danger of chilling is incurred. Where proper care of brood thus introduced is not assured the introduction of bees from other swarms is preferable. To prevent unfriendly attacks the bees thus introduced should be plentifully sprinkled with honey or sugar in water and placed into the honey space.

It is quite possible to be plentifully supplied with material for thus building up weaker colonies by taking strong swarms, which in April are covering from eight to ten frames, and sweeping bees from these and supplying weaker ones, letting them build up by this method, or failing this, by sufficient feeding distributing such frames among weaker colonies, so that these may swarm at the proper time and so prevent late swarmed colonies. In this way the "bee-keeper puts himself in the pleasant position to shorten the swarming period at will, and to close the same at a seasonable time, and can rest assured that every colony will swarm and will use the honey season to its fullest advantage. In good seasons it is possible also under these circumstances to have a number of extra swarms. It is certain, however, that these methods can only be applied where movable frames are used. Colonies with immovable frames may be equalized by displacement of strong ones by the weak or by introducing bees from the former to the latter. The displacement should be done at the time of the strongest flight say at noon because it is at this time, according to my experience, quite safe; at least I have not yet had one case of an attack upon the queen. It is well however not to displace the strongest hives by the weakest ones, but so to change that the strongest will take the place of those of medium strength, and let the latter take the place of the weakest and vice versa. Extra feeding of stable colonies is also highly to be commended. This consists in placing food under a strong colony and when the food is thickly covered with the bees to place it under a weak colony; by repeating this consecutively several times the weaker colonies will not become unduly disturbed.

Two principles must therefore be duly considered in order that simultaneous

swarming may be attained. (1) Cutting down of the swarming period to at most eight to ten days. (2) Care that in one yard neither extraordinarily early nor yet extraordinarily late swarms may appear.

Where the first is to be feared, keep back the threatened swarms by taking away brood or bees; where the latter is concerned, by building up with material from the former either by displacement or by feeding over.

[We are not particularly in favor of equalizing of colonies. It is necessary to exercise great care that the good colonies are not injured and weak ones not much or not at all benefitted. If the colony is not self-developing the trouble probably lies deeper and will not be removed by the addition of a few brood frames or a couple of hundred bees, any more than a man who is incapable or too lazy to work can be lastingly benefitted by filling his purse two or three times. Otherwise this article contains several ideas worthy of consideration and would do good service in raising points for discussion at conventions.—Ed. Munchener Bienen Zeitung.

[We are inclined to think that when bees are packed for spring with  $\frac{3}{4}$  in. outer cases and then painted dark to draw the heat and there is not more than 2 to 2 $\frac{1}{2}$  in. of packing between the hive and the outer case and this packing consists of forest leaves; in such cases we believe that equalization can be carried on to advantage. We would stimulate by feeding syrup poured into the comb and instead of giving old bees we would shake the old bees from the combs and then the remaining young bees (they adhere to the combs longer than the old) we would shake in front of the hive to be supplied and let them enter. Any remaining old bees will fly away.—Ed. C. B. J.

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Students of architecture have often wondered why the two towers of Notre Dame cathedral in Paris are not of equal size, though they appear so to the casual observer. The explanation is rather a curious one. When Notre Dame was built, the cathedral of a suffragan bishop was not entitled to two towers of equal size, and for centuries the Bishop of Paris was suffragan to the Bishop of Sens,



Notes from the Central Ontario  
Apiaries.—Wintering Bees.

—C. W. POST.

When the out apiaries were brought home in October, they were prepared for winter as follows: Forty-three colonies were transferred at once to double-walled hives, permanently packed with four inches of dry sawdust with 3½ in. cushions placed on top, which is covered by a four inch sun cap. About the first of December, the back end of the suncap was lifted and slid forward to rest on the rim of the cushion with entrance the full width of hives, and a board set up in front of each hive to keep out the snow and wind. I know that some of our best bee-keepers prefer a small entrance, but it will not work with me. The balance 282 colonies were wintered in three cellars. About one half had 2 in. cushions filled with saw-dust, and the balance wintered with the honey-boards left on hermetically sealed. They were placed in the cellars about the middle of November. The bottom row is six inches from the cellar bottom, which distance I consider as safe as two feet or more. I am aware that it is generally given in that bees suffer more in winter confinement in the bottom rows, than they do near the top of the cellar. Some claim that it is from excessive moisture near the bottom of cellars, while others say they suffer from foul air. Now, I don't believe that it is from either of the above causes. I keep three first-class hygrometers in my cellars, and if there is any difference in the humidity of the atmosphere between the bottom and top of cellars, the instruments fail to register it. But, I do know that there is a great difference in the temperature, it will run from 3 to 10 degrees, but that difference should not necessarily make the bottom colonies suffer if they are properly protected. In wintering bees in large numbers, a slight ventilation seems necessary and the ingress of air will circulate or lodge in the bottom of the cellar and gradually raise as it becomes warmed and that is a safe-guard from foul air at the bottom. I know that as bees are usually placed in cellars the bottom row will suffer most, whether they are six inches or two feet from the bottom of the cellar, but when we find out the cause, it

is very easy to apply a remedy. As I said before, the ingress of air circulates through the bottom of the cellar first, which brings a cool current of air in contact with the bottom of the lower row of hives, causing the warm damp air in the hives to condense and wet the inside of the hives, but by placing a good warm cushion under the lower row of hives, there will be no moisture and I can see no difference in wintering between the bottom or top rows. I arrange my stands in the cellar by laying down sun-caps about four feet apart in a row, then place a 2x4 in. scantling edgewise at the back and flatwise in front, giving two inches pitch. Then I fill in between the scantling with pieces of boards and pile it up high with dry forest leaves and as I set the bees on, it packs the leaves down solid making a good warm cushion, so no cold air can come in contact with the bottom of the hives. All hives with sawdust cushions are placed by themselves and piled up five in height, and those with honey-boards were kept by themselves. My honey-boards are cleated on top at each end with one inch cleats. As they are piled up I place dry leaves between them so no draft of cool air can strike the honey-boards to condense the moisture of the warm air in the hives. Now for results; out of the forty three wintered in doubled-walled hives, I lost one by bees clogging the entrance and from the lot of 282 in the cellars I lost two by starvation, the balance came out strong and dry and not a spot on a hive. The bottom rows were just as strong and dry as the top ones.

Trenton, May 22, 1899.

I wintered 238 colonies and only lost two. There were of course a few weak ones. There has been plenty of rain, it will be a week or more before clover yields, the prospects are also good for basswood.

G. A. DEADMAN.

Huron Co., June 1st, '99

Clover is badly killed, though not as bad as on clay land, field after field of it being plowed up in the back part of the county. It will interest you to know, there is no spraying being done. The winter seems to have killed some kinds of insects, even the potato bugs.

H. R. RICHMOND,

Halton Co., June 2nd, '99

Some Experiments with Foul Brood Germs.

F. C. HARRISON, B. S. A., Bacteriologist, Ontario Agricultural College, Guelph.

A number of correspondents of the American Bee Journal and other periodicals have lately given their opinion that the spores of *Bacillus Alvei* were destroyed in a very short time in boiling honey. In order to ascertain if this belief was conjecture or otherwise a number of experiments were tried and with the following results.

HONEY USED IN THE EXPERIMENTS.

The honey 20 lbs. of clover and 20 lbs. of buckwheat, was furnished by Mr. R. F. Holtermann of Brantford. The clover honey had a specific gravity of 1.043 and the per cent of formic acid in it was .057. The buckwheat honey had a specific gravity of 1.043 and the per cent of formic acid in it was .170, that is about three times more acid than was in the clover sample. (This result was in accord with a number of other experiments made on this subject two years ago and reported in the Agricultural College report for 1896.)

The formic acid determination of the two samples is given because this substance is used in Ecrope as a curative or preventative of Foul Brood. Bertrand in the *Conduite du Rucher*, 8th Ed. Nyon, Switzerland, gives the following directions for the use of this substance.

A solution of acid in water in the following proportions is made;—acid 10, water 90, and this solution is poured into the cells, the frame having been taken out of the hive. In addition, to hasten the cure, a tablespoonful of the solution to a litre of syrup may be fed to the bees.

This last quantity, a tablespoonful of a 10 per cent solution of formic acid to a litre of syrup, is exactly equivalent to a .15% solution of formic acid, or a little less than is normally found in samples of buckwheat honey. This small amount, however is sufficient to inhibit the growth of *Bacillus Alvei*, or in other words it acts as an antiseptic.

In a number of experiments the writer has found that nutrient media made up with .15 per cent of formic acid was sufficient to prevent the growth of this germ, even when the cultures were placed

under the most favourable conditions for their growth, except of course the presence of the acid. This strength of acid has no effect on the spores. Spores kept in .15% formic acid beef broth for six months retained their germinating powers unimpaired.

DEATH POINT OF THE SPORES OF *BACILLUS ALVEI* IN HONEY.

In these experiments the spores were treated in three different ways:—

A. Silk threads were dipped into water containing spores of *B. Alvei* about three weeks old, and allowed to dry.

B. A large test tube was half filled with honey, and spores were thoroughly mixed into it.

C. Small capillary tubes were filled with water and spores and then sealed.

These three lots were then suspended in 20 lbs. of boiling honey. At the end of every fifteen minutes, a silk thread, a portion of the honey and spores from the test tube, and two capillary tubes, were withdrawn from the boiling honey, immediately inoculated into nutrient media, and placed in the incubator at a temperature of 37°C. By the growth or absence of growth in the media one could ascertain if the spores had been killed or not.

The results of this experiment was as follows:—Clover Honey.

A. SILK THREADS.

TIME.	TEMP.	RESULT.
15 min.	115°C	Growth.
30	113°C	"
45	115°C	"
60	113°C	"
1.15	114°C	"
1.30	115°C	"
1.45	115°C	"
2 hrs.	114°C	"
2.15 min.	116°C	"
2.30	115°C	"
2.45	115°C	no growth.
3 hrs.	115°C	" "

B. TUBE CONT. HONEY.

TIME.	TEMP.	RESULT.
30 min.	113°C	Growth.
45	115°C	"
60	113°C	"
1.15	114°C	"
1.30	115°C	"
1.45	115°C	"
2 hrs.	114°C	"
2.15 min.	116°C	"
2.30	115°C	no growth.
2.45	115°C	" "

## C. CAPILLARY TUBE.

TIME.	TEMP.	RESULT.
30 min.	113°C	Growth.
1 hr.	113°C	"
1.30 min.	115°C	"
2 hrs.	114°C	"
2.15 min.	116°C	"
2.30	115°C	"
2.45	115°C	no growth.
3 hrs.	115°C	"

From these experiments it is evident that to kill the spores of this bacillus a temperature of 113° to 116° C for two and a half to two and three quarter's of an hour was necessary. MacKenzie\* in his experiment on the thermal death point of the spores in wax, found that they were killed by a temperature of 100° C, for two and a half hours

The above experiments were again repeated with both clover and buckwheat honey and with the same results as above.

The vitality of the spores taken from dead larvae is as a rule somewhat less than that of spores taken from comparatively young cultures.

### ADULTERATION OF HONEY.

Before Senator Mason's Pure Food Committee, Chicago.

The early part of the session was not unlike a convention of beekeepers. Up till nearly noon the committee was hearing statements from bee raisers as to the adulterations of honey. George W. York, editor of the American Bee Journal, said to the committee this practice was being carried on at the present to an alarming extent. It was not the bee-keepers he said who were doing this, but the jobbers almost exclusively. The only adulterant he knew of that was used was glucose, which he did not consider particularly injurious to the health, but the fact that the jobbers were resorting to fraudulent methods, in his mind, was ample proof that some legislation is necessary to protect the beekeepers. The object of adulterating honey was solely for pecuniary purposes. Glucose, he said, was worth probably 1 cent a pound while pure

\*MacKenzie: Experiments on Foul Brood. Report of the Agricultural College for Ontario, 1892.

honey in the liquid was worth 7 or 8 cent. Only in the liquid form, he thought, was there any adulteration. That honey which is bought in the comb is almost always reliable, because there is no way for manufactures to successfully imitate the work of the busy little insects in making combs. Some jobbers, he said, put some honey in the comb into a glass jar and poured glucose over it, giving it an appearance as if the honey had run out of the comb into the jar. The presence of comb in such quantities of liquid honey was in itself, witness stated, ample proof that it had been adulterated, for no "first-class" beekeepers ever put up liquid honey mixed with the comb.

Senator Harris asked witness if any attempt ever was made to feed bees with glucose in order to make the product larger. Mr. York told of an instance where a colony of bees was taken into Mississippi and an attempt was made to feed them with glucose. The result was that the whole colony died. It would be useless to try his experiment, he said, because bees would not eat glucose.

### NO PRESERVATIVES ARE USED.

Witness said no preservatives were used in honey; that there was a great possibility of honey granulating, but so far as he knew there was nothing done to prevent this, excepting to abstract the honey from the comb and put it on the market in this form. He quoted a statement from one of the adulterators of honey, who told him the honey he put on the market for his customers contained seven-eighth glucose and one-eighth pure honey, which he considered really was glucose adulterated with honey, rather than the reserve.

The only aid the bees are given in making honey, according to Mr. York, was the furnishing by the owners of a base for the combs. These manufactured bases are the size of the box which contains the honey-comb, and are placed in the middle of the cell to help out the insects, as well as to guide it in making perfectly straight tiers of cells. These bases are made of beeswax, and are perfectly pure, according to witness. There had been experiments made, he said, with a mixture of paraffin and beeswax, but the former had proved too susceptible to heat and would not answer the purpose at all.

Mr. York was followed by Mrs. N. L. Stowe of Evanston, who is first vice president of the Chicago Beekeeper's Association. Mrs. Stowe has kept eighty swarms of bees and her knowledge of the

industry has gained for her the position she holds. Her testimony corroborated that of Mr. York, as also did that of Herman F. Moore, secretary and treasurer of the association, who took the stand after Mrs. Stowe had finished.

Haldimand Bee-Keepers' Association.

A regular meeting of the Haldimand Bee-Keepers' Association was held at Nelles' Corners, on Friday, May 26, 1899.

Present—Wm. Atkinson, President, in the chair; and Messrs. Jas Armstrong, Israel Overholt, Isaac G. Wismer, D. H. High, W. A. Bell, J. D. Rutherford, Robt. Coverdale, Alex. Stewart, Solomon Houser, Fred Mehlenbacher, Fred Harrison, Wm. Kindree, Josiah Sherk, Mrs. (Dr.) Fry, John A. Best, and the Secretary.

The minutes of previous meeting read and approved.

REPORT OF WINTER.

	Fall.	Spring.
Wm. Atkinson.....	69	61
James Armstrong.....	144	132
Isaac G. Wismer.....	98	89
Israel Overholt.....	55	30
D. H. High.....	21	13
W. A. Bell.....	60	46
J. D. Rutherford.....	46	20
Fred Mehlenbacher.....	1	1
Sol. Houser.....	40	17
Fred Harrison.....	47	28
Wm. Kindree.....	70	55
Josiah Sherk.....	18	11
John H. Best.....	50	31
Robt Coverdale.....	55	31
Alex. Stewart.....	9	7
Mrs. Dr. Fry.....	3	2

Moved by Mr. Best, seconded by Mr. Armstrong, that members of this Association desiring an American Bee periodical, shall pay an extra fee of 5c. Carried.

QUESTION DRAWER.

In reply to Mr. Overholt, as to whether it was safe to feed liquid honey to bees in winter, the opinion was expressed that it was not, but if bees need feeding in winter it should be given in a Canadian bee feeder, and sugar syrup was preferable to honey.

In answer to Mr. Bell, it was stated 33 pounds of feed were necessary to ensure successful wintering.

Mr. High asked, when the queen laid 3 or 4 eggs in a cell and scattered her eggs,

whether she was all right? Mr. Armstrong said the trouble was that the bees were not strong enough to cover the brood.

In answer to Mr. High, Mr. Armstrong said the best way to save extra combs was to put them in a top storey, and leave them there till they were needed.

In answer to Mr. Bell, Mr. Armstrong said that when the combs got too thick and dark, the best way was to cut them out and put in comb foundation.

Mrs. Dr. Fry said she had a number of mouldy combs, and asked what should be done with them. Mr. Armstrong said he would give them one at a time to a strong colony, and the bees would soon clean them up.

In reply to a question as to whether it was safe to feed bees outside of the hives, the feeling was decidedly against it, as it would cause robbing, and weak colonies would suffer.

Moved by Mr. Overholt, seconded by Mr. Armstrong, that this association affiliate with the Ontario Bee-Keepers' Association, and that the usual fee of \$5 be sent to the Secretary of that association. Carried.

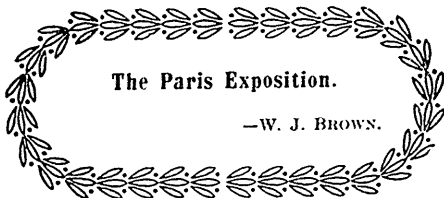
Messrs. Atkinson and Armstrong, the delegates to the Ontario Bee-Keepers' Association, gave an interesting account of the annual meeting held at Guelph, going over the several items on the programme.

Moved by Mr. Overhold, seconded by Mr. Mehlenbacher, that the expenses of Mr. Atkinson, the delegate to the Ontario Bee-Keepers' Association, be paid, amounting to \$4.75. Carried.

Moved by Mr. Best, seconded by Mr. High, that the next meeting of this Association be held at Nelles' Corners, on the last Friday in August. Carried.

E. C. CAMPBELL, Secretary.

The largest mouth, proportioned to the size of the animal, is that of the frog. The mouth of the leech is a powerful sucker, which will sustain many times its weight. The tongue of the toad and frog is prehensile. By means of it these animals seize and hold their prey. The mouth of the lobster is small, and he is obliged to tear his food to pieces with his claws before he can devour it. The mouth of the octopus is in the centre of his body, and is provided with a beak very like that of a parrot.



### The Paris Exposition.

—W. J. BROWN.

Now that it is definitely settled for an association exhibit of honey at the great fair by the Executive Committee of the Ontario Bee-Keepers' Association and the Commissioners of the Paris Exhibition, we hope that every officer and man who has the honor to belong to the O. B. K. A. will do all in his power to do honor and credit to the name of our Association and show the world that Ontario is not only in name a land flowing with milk and honey, but is such in reality. By the arrangement with the commissioners at Ottawa, they assume all costs of transportation of the honey from some central place (yet to be named) in Canada to Paris, all costs as to space, setting up, and glasses to show the honey in, and its safe return here, or its wholesale market value in cash to the contributors.

I trust that the above will be welcome news to every member of our Association.

Some minor details are yet to be settled, which, when finally settled, will cheerfully be given to the Canadian Bee Journal for publication, so that all may know what work is being done and also to any individual who would apply to either myself or Mr. Wm. Couse, our energetic secretary, Streetsville, Ont. Now let every member rally around the standard and do all in his power to assist the executive committee to carry out our arrangement with the commissioners at Ottawa to make a neat and creditable exhibit of honey at Paris in 1900.

[The above reached us May 23rd, too late for insertion in the June number.—Ed.]

### Experiments With Foundation of Different Sizes in the Sections.

There were two objects in view in these experiments. One was to find out which size of foundation the bees would start to work on first, second, to find out which section would be filled best and have the fewest empty cells around the sections. Several supers were used having the

sections so arranged that all would have an equal chance of being filled.

Experiment No. 1: Sections with full sheets of foundation fastened on top only. Experiment No. 2: Sections with half sheets of foundation fastened on top, and experiment No. 3: One inch square of foundation fastened on top in the centre.

In every instance, the bees worked first on the full sheet, and these sections when finished had the fewest holes or empty spaces around them. In the sections which had half sheets of foundation the bees did not work as soon as on the former ones, and the sections were not so well filled. The sections which had one inch square of foundation sheets attached to the top were the last worked on. They also had most vacant spaces around the sections. These experiments should be tried again, also others with pieces of foundation attached at different points around the sections.—Experimental Farm Report, 1898.

### How to find a Black Queen.

Yours with subscription to THE CANADIAN BEE JOURNAL to hand, for which please accept our thanks. We trust you will succeed in securing the old queen. This is a somewhat difficult operation, especially if the bees are the common black, or nearly so. In such a case when the bees have been smoked for a short time they begin running over the combs, and even boil out of the hives. You probably know that with the Italian bees they remain quietly on the combs, and in forming into clusters the queen can be more readily detected. Again, the color of the queen is against the darker bee. To avoid the tendency for the bees to rush over the combs we generally smoke the bees very gently, then take out all the combs and separate them; this prevents to a certain extent the bees forming in large clusters. Then closely examine the combs, first entirely emptying the hive of bees. If you do not succeed in finding the queen in this way, put a bee guard or queen trap in front of the hive, shaking the bees from the comb as you put the latter in the hive. Then smoke the bees gently, trying to direct them to the hive. It is well to set the hive on the ground, if it is raised and on the stand, the queen and many of the bees might cluster under the bottom board. It is well to shake the bees in a long line connecting the clusters. By so doing, one gets a better chance to detect the queen amongst the bees.—Ed.



The above is from an engraving from the March number of the Muenchener Bienen Zeitung, kindly loaned by the editor, Herr J. Flink. It is a typical German scene. We have several others which will appear at a future date.

#### TO TRANSFER BEES AND COMBS.

How can I best transfer bees from the old box hive?

The best way at this season to transfer bees from the box hive, is to put the new swarms in them and about ten days after swarming turn the old box hive upside down, put a box on top, closing any opening between the two with cotton wrapped about the hives, drum the old hive for about twenty minutes, when the bees will have climbed into the empty top box; remove this carefully and then break the wood away from the comb, injuring it as little as possible. A good way is to run a long knife blade between the wood and

comb. Put any worker comb or brood into new frames, patching the comb the best way you can; by that I mean to have as little waste as possible. Keep the pieces of comb in place by narrow strips which project a little beyond the top and bottom bar, and wind a wire about these projections. If the colony is fairly strong, they will fasten the comb together and into the frame in a few days. In any case as soon as this is done remove the sticks, otherwise the bees will get under the sticks and damage the comb. At the opening of fruit bloom is perhaps a little better time than now, but this only holds good if there is much honey in the combs; the more honey in the combs, the more difficult and unpleasant the operation of transferring.—Editor C. B. J.



## Meeting of the Senate of Canadian Bee-Keepers.

What is the Best Mode of Preventing Increase in the Number of Stands, and yet take care of the swarms that will come out?

This question was introduced by Mr. Fleming, Everett, Mich.

Mr. Gemmell. If I had all the bees I wanted, I would hive the swarm on the old stand, and place the old hive alongside and apply a cone and run the bees in the old hive every day they came out. They would be excluded from the old hive and go in with the swarm; at the end of twenty-one days you would have all your brood hatched out and could make what disposition you liked with that hive of combs—for extracted honey, if you like.

A delegate. What would you do with your queen cells?

Mr. Gemmell. Nothing. The bees will attend to that. If there is a queen that hatches and she goes out, she cannot go back again; if she does, they will kill her; if they killed the old queen it would be all the better.

Mr. Heise. Wouldn't there be a little danger of moth in the hive?

Mr. Gemmell never a particle.

Mr. Armstrong. When I got about as many as I wanted, and did not hive on the old stands—for instance, I have a hive over here that has swarmed five or six days before one that swarms to-day—I take that swarm and hive it into the other one. I have done that several times and it seems to work successfully, and it is very little work; just take the one that came out five or six days ago and put it right in with the other one; every swarm I have done that to has worked all right.

Do not touch the cells at all. I always give my swarms plenty of time to settle.

Mr. Atkinson. Don't you think it would be surer if you cut the cells out of the oldest one—the one that was out first?

Mr. Armstrong. I think there would be danger of them issuing again.

Mr. Holtermann. We have never wanted totally to keep down increase; but what I consider very good is to double up brood chambers; put one on top of another keep down increase that way.

Mr. Atkinson. A gentleman informed me that he hives on the old stand, then places the old one at right angles with the new one, and by the seventh day he has it facing the same as the new swarm. Instead of moving into some other place in the yard he takes it and moves it over on the other side in the same direction—move around in the same way as the new one is; by that time you have the greatest amount of bees in the new colony. He raises the top up and sets one colony on top of the other one.

Mr. Fleming. Mr. Holtermann's idea is the one I follow.

Mr. Holtermann. With my system you can get down to no increase; at the same time, it is not absolutely necessary to get down to that and the few increased colonies you get in that way can be used to good advantage in the yard.

Mr. Alpaugh. There may be many different ways of keeping down increase; if you have a good strong colony swarm midding early, get what bees you can from it, take the hive and set it on top of some weak one, and allow that to be one hive till it swarms. For the rest of the season you can do what you like with it. I like a good lot of bees for comb honey. I have had as high as five swarms in one heap working on comb honey, and done well too—made the nicest honey we ever had. Have plenty of empty room below, just for twenty-four hours, until they start above. I had about one hundred colonies, and would have about eight or

ten swarms a day; some would swarm out again and some would not.

### What is the Best Method of Introducing Queen Bees at the Different Seasons?

Introduced by Mr. Fleming.

Mr. Fleming. I usually make sure the first thing that I have not got a queen. (Laughter).

Mr. Armstrong. If a queen bee was shipped to you by mail what would you do with the others?

Mr. Fleming destroy them; in the Miller cage they only have room enough to run around, and you put five or six young bees in there they will scent that queen bee so well that they will never know the difference, but will accept her as their own queen.

Mr. Armstrong. But what about the young bees of the other colony?

A delegate. They will have the scent of their own colony.

Mr. Armstrong. Do you find any difference in queens received by mail and queens from the hive; do you find any difference in introducing them to the bees? I use a cage with three small holes in it, and a whole bored through the end filled with candy. I lay that on top of the frames at any season of the year. The first thing is to find out whether the colony is queenless or not. I have cages with spaces  $\frac{3}{4}$  of an inch thick.

Mr. Fleming. We always set a brick on a queen cage; if you do that you can pick out every hive that has a queen cage.

Mr. Young. I generally import about a dozen Italian bees from the States every season, and I know where I am going to put them before I order them. I take the hive and take the frames out—part of them—and put them into a couple of empty hives, and I will know very shortly by the move of these bees, which hive the queen is in. As soon as I know that, I will put her back on the old stand. All the combs that the queen is not on I will put into another hive. I will put my queen cage on top of those four or five frames, and there will be nothing there but young bees, and in about twelve hours I will liberate the queen. I lost one last year. They will all come over to where I have liberated this Italian queen.

Mr. Holtermann. This feature of taking out the old working bees and putting the young ones in their place is a good one. We find people who buy queens early in the season, to introduce them, and in my opinion, unless there is some serious reason, they are making a mistake

—particularly with beginners. If you have a queen in the hive during the earlier blossoms, I would leave her there, unless she was worth little or nothing. We sell a good many queens and it is quite a common practice; but would never advise a customer to do it. There is difficulty to a beginner, at least, to do it at that time. If an inexperienced man introduces a queen at that time he is likely to loose her, and it often means that the whole colony is ruined for the season. One advantage I see in destroying the worker bees—if there is any foul brood honey you lessen the possibility of any damage in that direction. But I believe queen breeders are very careful about this.

Mr. Robinson. I got a queen through the mail last fall, and the directions were to pump a little smoke through the entries, and let the queen run in.

Mr. Gemmill. Take the queen out of the cage, kill the old queen, give it a puff of smoke and drop her in the hive and let her go.

Mr. Young. I never introduce a queen except just before the buckwheat season comes.

Mr. Holtermann. I do not like any system in which you have to open the hive and release the queen.

Mr. Alpaugh. One system I have followed in introducing queens; the hive I want to put the queen into, just open it up one afternoon, and shake the bees off clean; when I get them all off I give them three or four dumps from end to end of the box, and get them scared all most to death; you can then drop your queen in that box among those bees.

Mr. Young. If she was mailed to you?

Mr. Alpaugh. I have done so with mailed queens, but not enough to speak with certainty. I watch them, and if everything is quiet I go and exchange those combs with another hive that I have shaken these bees off; bring those combs back and put them into this hive; then I dump the bees all out of the box and let them travel for the hive; you can see if there is any trouble; if there is any trouble with the queen, let them go in, and they won't fight over a second even under those strange combs. If they are going to fight at all, it will be before they get to the strange hive.

Mr. Gemmill. I bought a queen bee thirty-four years ago last October; it was sent by express, in a little cage, with a piece of comb and some cotton batting; we were told to take the queen out and put her in a wire cloth cage; we took off the cover, laid this queen on top of the



frames in the wire cloth cage in the evening, left the hive that way for forty-eight hours, and then at night we went and pulled the plug out.

Mr. Holtermann. Inexperienced bee-keepers will order a queen by such and such a date. We know the average queen breeder will not send a queen that day; it may not be ready; they make their colony queenless two days before that, and maybe they will not get their queen for quite a while after. Leave your old queen in until you get the new one.

Mr. Gemmill. Most of the queens are introduced today by the cage process, and it is about as safe as any.

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### Sudden Death.

As a brief account of the sudden death of Richard, my six year old boy, has been published in a number of Canadian papers, and as we have had words of sympathy from many bee-keepers, the request has been made to give particulars in the Canadian Bee Journal. I had no intention of referring to it in the C. B. J., but in response to requests, I reply.

First of all we want to thank all for their kind sympathy. On Monday, the 12th of June, after dinner, contrary to my usual practice, I remained at the house for some time. I felt like resting and did what I do not remember ever doing before at that hour of the day; I lay down in the hammock at the side of the house. Those who were at our house during the winter convention may remember the fair little boy, strong, and the picture of health. He came to me and I asked him if he wanted to go to a gospel meeting for children and he said yes. We arranged that his older brother should take him on the wheel. Then he asked for the hoe, he wanted to plant some radish; not ten minutes after I heard him crying on the other side of the house. I did not go for almost a minute. When I did go his mother was with him, and he said he had pains in his legs. In about a minute he had convulsions. I said he was poisoned. In response to a question he said he only had what we gave him for dinner. I jumped on my wheel and in ten minutes or so had one doctor and in a few minutes another, but all was over in about half an hour. There is no doubt it was sun-stroke as he had no hat on his head. I always went with the boys to the barber and did not allow him to

cut their hair short, but recently I could not go with them. That is the human side of it. But we recognize in it God's hand. It has been for some wise purpose. It reminds us of the uncertainty of time. We may watch and care for ours and ourselves, with all that the wisdom of the human mind sharpened by love can conceive, and our powers then fall short. It teaches us to prepare ourselves and others for the hereafter which all must face, and this experience has brought home to me the fact that I have been too much occupied with affairs of the time when more has been expected of me. I have already publicly signified my intention not to stand for re-election in the city council. I will find more profitable employment, the result of which will not pass away with time.

R. F. HOLTERMANN.

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## Ontario Bee-Keepers' Association

Continued from June C. B. J.

Mr. Hoshal. I have been satisfied this long while that there was a very large proportion of wax in the best cleaned refuse we could get. Take ordinary refuse and look at it with the naked eye, and it has every appearance of being rubbish. If you will take that rubbish and put it under a glass and magnify it, you will see that it takes on an altogether different appearance, that instead of being a lot of refuse with a little wax in it, it is a great big lot of wax with just a little refuse in it to color it and deceived the naked eye.

Mr. Dickenson. My experience along that line is something like Mr. Hoshal. I have always had considerable doubt that after extracting combs I got all the wax out. I was quite positive I hadn't and to prove that I was quite positive have got now a stock of this refuse stored away. I don't know whether I have been waiting for some man like Mr. Gemmill to discover something new, but I must say that according to the explanation he has given us with regard to the pressure he brings to bear on that hot refuse, I have no doubt that I can get considerable wax out of this stock of refuse. So that I shall be very glad to try that process.

Mr. Darling. I have tried two or three

ways of taking out wax. I used the Jones' extractor for a while, and was dissatisfied with it. Through Mr. McEvoy's influence I was furnished with the pattern of Mr. Alpaugh's invention of the Solar Extractor. I made one and was very pleased with that. In starting the fire one day with refuse it burned so freely that I made up my mind there was too much wax there to waste. So I gathered the refuse up in a box. I had no press to press it out but I put it in some of this coarse sacking and took two sticks and pressed it as well as I could with the sticks, and got about ten pounds of wax out of what had been thrown away. Still I was not satisfied. My friend Gemmell told me about his process and I made up my mind my refuse could lay there until I got a press.

Mr. Brown. It appears very plain to me that the paper before us is one of the most interesting we have had for some time. It goes to show that we are as a rule losing quite a quantity of what should be turned into hard cash, that is, a large quantity of wax. I am using a Solar Extractor, and from the discussion going on I must be losing at least one third of the wax. I think this paper is worth a good deal to the Convention, and for my part I mean to profit by it if possible and have a press.

Mr. Alpaugh. I have never used the Solar Wax Extractor for melting old combs except when the combs were in the whole state and getting them just to fit the basket, and setting them on edge so that as they melted it ran down through the screen and was not caught in any of the seams. I know I could get about all the wax out of the base that way, but whether it came out from between the cocoons and the wall of the cell or not, I don't know. I would never recommend it for old comb, because the wax will collect in those cocoons and stay there unless it is got out by force. Even the boiling process; Mr. Smith was telling me he got about all out; he was sure the wax would rise to the top. I told him it wouldn't. You put so much wax in, and so much will come to the top and so much will stay there.

Mr. Smith. What weight did you get from eight combs?

Mr. Alpaugh. I only get about a pound and a half from the combs, old black combs.

Mr. Gemmell. You would get more wax by using the press out of those. The thicker the cocoons the more power required,

Mr. Alpaugh. After going through the combs I could see that the wax had gone out through the base but I couldn't see why there could be as much wax retained in the wall as what went out, unless it was taken up by the cocoons in some way, soaked into it, instead of running where it ought to go. I can't see yet how you can get three pounds.

Mr. Evans. In case of this process of squeezing the wax becoming general, and they were to extract combs from foul brood hives, would there be any danger that parties wouldn't boil it sufficiently?

Mr. Gemmell. You boil it first and squeeze it afterwards, but if you use a Solar Extractor or steam extractor, the steam would destroy it, but in using a Solar Extractor I do not think it is a very safe thing to do. After you get all the wax out you would have to boil the refuse.

President. I think by Mr. Gemmell's topic he has persuaded all here that in the use of the Solar or steam extractor we are wanting 33 $\frac{1}{3}$ % of the wax, a very considerable item to those who have much work to do, and I think now we will have to draw this discussion to a close.

Toronto was selected as the next place of meeting.

After discussion it was decided that the Association take the Canadian Bee Journal again as a premium to members.

#### ADDRESS BY THE PROVINCIAL MINISTER OF AGRICULTURE.

Hon. John Dryden. I felt when I was coming up on the train that I had been reminded of a little couplet that I used to study when I was a little boy, and it went something like this, "How doth the little busy bee improve each shining hour," and I said to myself "I guess that is what they expect me to do." I am supposed to drop in and see you in your Convention; I am expected to attend the meeting of the Experimental Union at the College; the Fat Stock Show are expecting me there; I am expected to attend two banquets to night; and I am expected also to speak a few words to the Young Men's Liberal Club. I said to myself "I must be improving every shining hour." I congratulate you, Mr. President, on the attendance at your Convention, and I think it indicates the very deep interest which your people have in the work for which your Association is organized. Now I want to say this to you, that we have proven in this country that this is a land flowing with milk, and I think I read in somebody's address that you proposed to

make it also a land flowing with honey, so that we will be able to say that this is a land flowing with milk and honey. Our dairymen have not only given us good products, but they have advanced now to such a stage as to the quantity of the product as well as the quality, that our country is known for this product all over the world over. Now I shall be very glad if the bee-keepers are able to add to the other in a similar way. I would like to say that in my judgement this country is admirably suited for the best quality of honey, and what I have felt all along, and perhaps you understand better than I do, is that all we needed is a sort of stimulus to advance production in this country was a better market. I think now you will probably soon see an open door for better markets for this product, as we have for all products. I understand that some Canadian honey has gone into Great Britain; I understand also it is very much appreciated there, and I would expect in the near future that you would have this market increasing very rapidly. I think now is the chance, because more than ever in the history of our country do we find Canada appreciated in every respect in the Old Land. I remember years ago being in that country, and I used to be, to put it mildly, disgusted to find that the people there knew so little of Canada. They knew of America, but they didn't seem to have heard distinctly of Canada, and when you talked to them about coming to this country, they would say to their neighbor "This is an American," and when we went to purchase sheep or catt'e they would say "The Americans are here," and when we spoke of the ports in this country, they would tell you of New York and Boston. I remember on one occasion being seated at a dinner table where a number of prominent gentlemen were present, and we had been talking of Canada. One of the gentlemen turned to me, and said, "By the by, I didn't hear you say which of these gentlemen you voted for as President last election." You see after all our talk the man reverted in his mind to American institutions; he referred not once to Canada, but the Republic. I didn't like to rebuke the man and tell him how little he had studied the history of the world; I had to sit by silently, and say "But you forget that I am from Canada, and that our institutions are similar to what yours are hear." I venture to say that in the near future we can not have such ignorance as that.

All the people are studying our country, are studying how trade can be increased between the motherland and this land, and to-day, I am told, what you need to do to have your products receive attention is to mark them "Canada," and Canada will be preferred rather than America to-day. We understand that they are friendly to America because of what has been done by some of our politicians; it has had that effect all over the country. Now, in order to catch this market, of course I need not tell you that there are two or three things absolutely essential. You must have superior products. You meet there the whole world in competition, and you cannot expect to gain the front rank in the market with that which is inferior, but that which is superior. You must put it up in some attractive form, so that it will present to the eye some attraction as well as to taste when they open up the parcel. I think our people in the past have made a mistake in this regard, and have not paid enough attention to their peculiarity in that regard. So that they will know at once "That is Canadian. I have had some of that before; that is what I want you to give me." The Englishmen doesn't like to be deceived; you can't try any wooden-nut-meg business on them. It must be honest dealing. Those who handle this product must be careful that they do not impose upon the Englishmen; he won't stand much of that. If he makes up his mind that American cheese is filled, and therefore inferior, he says, "I don't want any more," and you will have to work a long time to get it out of his head. What I think you gentlemen ought to realize, is that everybody ought to unite their efforts to this end. So far as I am personally concerned you all know I am your friend, and am prepared to render any assistance to any of these Associations we have in this country, provided we work along the line of progress and development and improvement to our country. I have often difficulty because some organizations say, "The country, let the country take care of itself, I am looking after this gentleman." Do not let us have too much of that. We must understand we do the best for this gentleman, (for ourselves) when we are doing that which is best for the country. I would like to suggest that the bee-keepers of Ontario have a part to play in working out our national interests in this country, just as certainly as any other branch of agriculture. The little bee may be com-

sidered a very small thing, and to some persons it is a very inferior thing and does not deserve as much notice and attention as we give it. They say, "You give this and that. Look at what you give to the bee-keepers." It amounts to nothing. "Look how you are encouraging the poultry men." What does that amount to? But when you come to add up the product you find that there are millions of dollars in it, and every time the little bee goes out and settles on some flower, and brings the honey out of the flower and stores it for you, every bee that does that is adding to the wealth of this country. There is no doubt of it. A little drop of water isn't much, but the ocean is a great deal, and yet it is made up of drops. So it is, the wealth of our country is made up of these little industries, some of them greater and some of them smaller. But as a Canadian I desire that all our industries should be encouraged, and that every man in this country should understand that he has a part to play in the working out of the great nationality we expect to see here in future. And as you work with your bees at home, the thought I have to give you as you properly take care of them, as you look after what you call your own, is that you are but adding to the wealth and prosperity of our country.

### Management of Comb Honey.

By R. H. SMITH, St. Thomas. (See page 466 C. B. J.)

Mr. Sparling. I think Mr. Smith's plan so far as he has outlined it is much in accord with most honey comb users. He would recommend the novices to take extracted honey. Well, it is a question, whether it is advisable to tell the novices to take extracted honey. If he does there is great danger of his putting poor honey on the market. If he takes sections, the sections may not be perfection, but the honey stored in them will be as good as that produced by an expert. He advocates light foundation. I presume he means what is known as extra thin. Well, I am not sure about that. To produce the best results, as far as a large profit is concerned, I think that medium weight foundation serves the bee-keeper's interest best. He talked about the bees swarming out. It is only, I find, at certain seasons that bees are inclined to swarm out, during very hot weather. I have obviated that in a great measure by, in very hot weather or very heavy swarming, where I have a couple of swarms to-

gether I put an empty brood chamber below the contractor.

Mr. Smith. I might say that I wouldn't advocate extra thin foundation, I guess about twelve foot to the pound.

Mr. Newton. There is one point that came out in Mr. Darling's paper, that I thought was brought out yesterday, and I think it well that we stand to the point we arrived at yesterday. Mr. Sparling said he thought the novices could produce the quality as well as the expert bee-keeper. That is just why I want to mention it. We said yesterday that so much of the honey this year when held to the light had a reddish cast in it that it was carried from the brood nest, and if the novice doesn't guard against such he will have that honey in his sections, and that I say isn't in with the best of honey.

Mr. Post. In reference to that thought of Mr. Sparling's, I would also say that novices in producing extracted honey are almost sure to starve their bees to death the first winter. It is very discouraging for them; they have to buy over again.

Mr. Gemmell. Wouldn't they be just as apt to starve if they were held in a contracted brood chamber for extracted honey?

Mr. Holtermann. The novice never does that.

Mr. Emigh. I would like to hear from the gentleman who had comb honey at London.

Mr. J. H. Shaver, Cainsville. I take it on Mr. Pettit's plan; I do not want drones running over my honey, and I do not allow an old colony to do any capping if I can help it.

Mr. Gemmell. Do you put sections on your old colonies at all?

Mr. Shaver. I do.

Mr. Gemmell. Because they are apt to use the old cappings.

Mr. Shaver. I don't know what they do, but they dirty it any way.

Mr. Gemmell. I think it is pretty generally conceded that if the sections are capped over an old brood chamber and allowed to remain any time at all they will become dark.

Mr. Shaver. I use the Pettit way on all my hives. There is one question I would like to ask you, when is the proper time to put the wedges under the hive? I have had a little argument with a few this summer, and we don't agree.

Mr. Smith. Do the wedges make any difference to the way the sections are filled?

Mr. Shaver. I claim it helps to fill them. I have done far better with the

wedges than without them.

Mr. Smith. If you had a small colony of bees in that hive would you get the outside sections filled just the same as if you had a large swarm?

Mr. Shaver. I don't use small swarms.

Mr. Smith. If the super wasn't full would they fill the outside?

Mr. Shaver. I have had them fill the super before they touched the outside. I have had them start in the middle, but I have had them start on the outside too. What I want to know is the proper time to put the wedges in.

Mr. Post. What race of bees do you produce that honey with?

Mr. Shaver. As near as I can tell they are hybrids.

Mr. Post. Is the foundation stock Italian?

Mr. Shaver. I don't think so. There was some neighbors of mine had better bees than mine, and mine have improved.

Mr. Holtermann. I might say as far as those wedges are concerned. We tried in the same yard wedges and no wedges, and we certainly think we got better comb honey and more evenly filled with the wedges. It seems to me it would be reasonable. Of course, anything that will produce the same effect will answer, but by doing that the bees are compelled to go along the outer sides and fill the outer sections.

Mr. Gemmel. Last year I used the wedges, and this year I didn't. Of course it depends a good deal on the honey flow. I think a perforated separator has more to do with getting the outsides filled than the wedges. There was one other point, Mr. Shaver asked, when was it best to put the wedges under. That is before swarming or after swarming?

Mr. Shaver. Any time. After swarming I put them under.

Mr. Holtermann. Mr. Pettit, puts them in before.

Mr. Shaver. But does he put them in when he puts the super on?

Mr. Holtermann. Puts them in a little after the super is put on, so as to force the bees into the super.

Mr. Alpaugh. I would like to ask any others who use the wedges if they examined under the hive to see whether the bees are not clustered on the bottom board.

Mr. Shaver. I have. If the wedges are put in at the right time they will not cluster around the bottom board.

Mr. Sparling. I have tried the wedges to a small extent but I could see no difference.

Mr. Armstrong. I would like to ask Mr. Shaver if he uses perforated separators.

Mr. Shaver. I used a few, but mine were not spaced right. I made them myself and I got the spaces too big.

Mr. Gemmel. I thought Mr. Post's were a little large. He made his and I thought if his were a trifle less they would be better—just barely wide enough for the bees to go through only. With the use of wedges you get the outside sections better filled than without them.

Mr. Shaver. By all means.

Mr. Gemmel. That is opposed to my experience. I would sooner do away with the wedges than the follower, that is for getting the outside sections filled.

Mr. Post. That is my experience. In fact I never use wedges.

Mr. McEvoy. I would like to hear from Mr. Sibbald along that line.

Mr. Sibbald. I never tried the wedges, but I block the hive up in front and there is a space left then from the front to the back. The bees can get out near the front, the back they cannot. They store their honey up from the outside comb; they don't leave their honey down so near the light. Before that I had the outside combs pretty well filled with honey. Then as to the followers, or the wedges, I have used them for a good many years. I had to use them to fill up my super in the first place, and after just followed the separator with the wedge, and it gave a space at that side; the other side I hadn't one. The one near the space was the best filled. Now I have one of those both sides.

Mr. Gemmel. Mr. Alpaugh, as I understand him, he doesn't want space at the side of the super at all. Mr. Post prefers the space, and so do I, and you prefer the wedges to the space at the side.

Mr. Shaver. I haven't tried it enough to know. I have had good results from the wedges.

Mr. Holtermann. You know as soon as you begin to make perforated dividers; the expense is so great in boring those holes that it makes it an expensive contrivance.

Mr. Shaver. Why not punch the holes the same as in the chairs?

Mr. Holtermann. Yes but you would sell more seats for chairs than of the other. I have great doubt that either the fence separator or the perforated separator has any advantage in the interior of the hive. It may be between the last rows of sections and the side of the hive.

To be continued.