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THE



# CANADIAN

# Honey Producer.

Its Reading Columns for the advancement of Honey Producers exclusively.

Vol. 3.

BRANTFORD, MARCH, 1889.

No. 1.

## The Canadian Honey Producer,

PUBLISHED BY  
E. L. GOOLD & Co.,  
BRANTFORD, - - - - ONTARIO.

Published Monthly, 40 cents per year.

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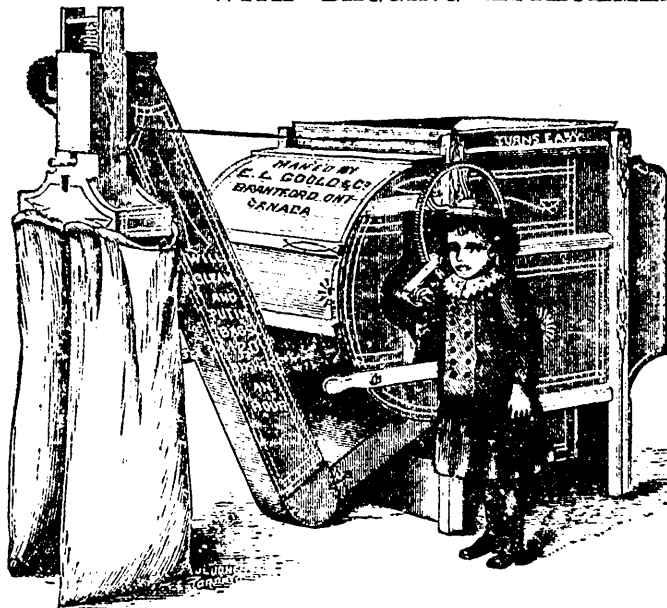
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THE CANADIAN  
HONEY PRODUCER.

Vol. 3. March, 1889. No. 1

Bee-keepers have for some time felt anxious about the use of Paris green upon fruit bloom to destroy the codling moth or rather the larvæ which eats its way into the apple. At the annual meeting of the Ontario Agricultural and Experimental Union, Prof. Jas. Fletcher from the Dominion Experimental Farm, Ottawa, in speaking of this insect said : The egg is deposited in the blossom when the petals have opened out and the flower is in full bloom ; the egg then takes 8 or 9 days to hatch and assume the larvæ form ; before this time it is absolutely useless and a waste of time to sprinkle with Paris green solution. He preferred even not to treat the trees before the young apple was about to turn down. It will be seen that by this time the bee has long ceased to visit the blossom, the petals have dropped off, and if the bees are sprinkled before this time it is likely to prove a waste of material and labor ; but on every hand the interests of the bee-keeper and the fruit grower work hand in hand, and there is no clashing upon this point. Only let us take steps to instruct fruit growers upon this question and we will have no more loss of bees from this source.

Mr. McKnight attacks the editor of this paper because he a year ago did not make mention of one of the papers written for the convention. This was entirely an oversight. The writer of the paper does appear to us to go rather out of the way to give honorable mention to the goods of a certain firm and "puff" a certain individual, but this is a matter of taste and policy which we will not criticize. At the time, however, the editor of this paper paid the writer's membership fee to make him eligible for directorship at

the annual meeting. If it was the intention to slight the paper the next day this would hardly have been done.

In one place Mr. McKnight speaks of the value of the paper and excluding it from our Journal. We would remind Mr. McKnight that our Journal has for its contributors some of the best writers in America, and that means in the world. We always select the best matter in our estimation and often have to reject good matter. It was not our intention to publish the paper in full, merely draw a few of the leading thoughts from it. If the reporter excluded the names of a part of the officers in the same way, we will cheerfully give the fact publicity to set him right before the public. Of course we cannot notice everything our Canadian contemporary says or does. We are, however, pleased to note that it appears to have promised to enter on a new policy in its first editorial Jan. 30th. There is no reason why the two bee journals in Canada, in fact all bee journals should not be on a friendly footing in many things. Let us work hand in hand whenever we can and promote the interests of bee-keeping ; differences must of course arise, and by friendly discussion, which may, however, have no uncertain ring about them, good will result. And just here let us say in a friendly way, we do think it a mistake to allow personal criticism with an assumed name attached. None such need apply here.

We had the pleasure of visiting the home and apiary of Mr. R. McKnight at Owen Sound. The view from his grounds is beautiful. The grounds and all about the apiary appeared to be in perfect order. The bee house is partially under ground, the hives stand three tier high, the first being probably 2½ ft. from the ground. We should like to give a more minute description of the cellar or bee-house but we might make a mistake as no notes were taken at the time. We understand a part of the bees are wintered outside some distance from Owen Sound,

Mr. Corneil certainly deserves credit for his carefully prepared essay on ventilation of Hives for Winter. We would however remind bee-keepers that we must take into consideration the "quiescent" condition of bees in winter and whilst we heartily advocate fresh air for bees, may we not overdo it. There appears to be no use in changing foul air for foul air, in the hive which we must do if the repository has no ventilation and the hive alone is ventilated. There is doubtless in this question much which requires careful investigation.

The Ontario Bee-Keepers' Association was represented at the Central Farmers' Institute by the Pres. and Vice Pres. of the O.B.K.A. As reported in the papers the Executive neglected to instruct the secretary of their association to ask representation from this association but probably Prof. Shaw knowing the bee-keeping interest was an important one took steps in the matter. We contemplate a crusade against all papers giving market quotations for all farm produce and not honey, we can in this way do much to increase the consumption of honey. Anyone who cannot rise above the spirit of petty fault finding should leave this question alone but it may well be looked at from a higher standpoint; the desire to place bee-keeping upon the footing it deserves side by side and on a level with other branches of agriculture.

This number contains an interesting account of bee-keeping in Jamaica, kindly contributed at our request by H. Pettit, son of S. T. Pettit, Belmont, who has been in Jamaica for some weeks on a pleasure trip.

We notice a decided improvement in the *Bee Keepers' Advance*, a Journal devoted to bees and poultry. It has improved very much in every way—we wish it success.

We should like in our next number the experience of as many of our readers as possible on, "*Stimulative feeding in Spring*, when, how and results if good or bad?

*Contraction or not contraction of brood chamber?*

*When and how to set out of winter quarters?*

*How to prevent robbing and spring dwindling?*

Any or all of these points we would like our readers to take up and give their experience on.

We wish to extend the circulation of our Journal. The first five hundred subscribers who wish a friend to subscribe for the CANADIAN HONEY PRODUCER we will send their friend the Journal for three months free, if his name and address is sent to us plainly written on a Post Card. Of course the name must not be or have been upon our subscription list previously. We make this offer as we feel satisfied when a bee-keeper sees the merits of our Journal for three months he will in 99 cases out of a hundred become a subscriber.

The *British Bee Journal* is in its seventeenth volume. It has an increase in circulation in spite of the poor honey season.

We must apologize for the appearance of the portrait of Mr. Thos. G. Newman in the Feb'y issue of our Journal. It was found when too late that on our paper it was not a success.

The magazine to which reference was made in our last issue neglected to credit the C. H. P. through an oversight. Such mistakes easily occur in printing.

We thought the interests of bee-keepers might be advanced by attending one of the sessions of the Ontario Fruit Grower's Association; therefore we attended their late meeting (Feb. 21,) in Hamilton. The fact was brought before them that Paris greening fruit

trees at certain times destroyed many bees as the least quantity never permitted them to return to the hives, and the question was asked what was the proper time to do the work.

Mr. Wolverton, the Secretary of the Association said to put it on apple about a week after the blossom has fallen on the apple and with plums before they opened out in blossom, so that in neither case would the bees be interfered with, if the fruit grower consulted his own best interests.

Prof. Wm. Saunders, Dominion Experimental Farm, Ottawa, agreed with Mr. Wolverton about the apple but thought as to plum it should be put on after the blossom has fallen.

Another young man who had done a good deal of experimenting said he found poor results from spraying earlier than the time spoken of, so that he now sprayed early and late blossoms at separate times. In all that large and intelligent body there was not one who advocated spraying less than 8 days after the blossom had fallen. Fruit growers will be pleased to have such high authority to back them in the future.

A good deal has been said of late years about "Priority of Location." It has doubtless had the good effect of stimulating a sense of the unfitness of one apiarist of any extent locating in the vicinity of another apiarist of any extent. That this is desirable to bring before all no one can deny; any direction in which to educate Bee-Keepers is desirable. It has the effect of restraining those that know better, and preventing many others from acting unjustly to themselves and others through ignorance. Whilst the agitation then has not been in vain, it will perhaps be well to leave the question here for the present.

*For The Canadian Honey Producer.*

### FEEDING BEES.

DR. G. DUNCAN.

Bees may be fed all winter in a wa

cellar if the temperature is not lower than 40°. I have fed four small swarms last winter from January until they were put out in Spring and with good results, and I have five nuclei this winter which I kept over to save the queens. When put into cellar I don't think they had two pound apiece of honey. I have been feeding them all winter and they are doing well. I feed them once a week with warm honey, poured on a card of comb laid on quilt with about two inches of quilt turned back at one end, and cover of hive put on to keep bees in the hive. I don't think it would answer for outdoor wintering. After the bees are put out on their summer stands in Spring the feeding must be conducted with more care, as all the heat of the bees must be kept in as much as possible and the cold air kept out. First of all light and weak swarms ought to be put in hives contracted by division boards, according to the number of bees, from two to four or five combs, and the spaces outside the division boards filled with dry fine sawdust and the entrance contracted. The feeders ought to be made to prevent any escape of warm air when put on and feed put in. I use feeders made as follows: a tin trough enclosed in a wooden box without a bottom, the tin trough fastened to the box by blocks at sides and ends with a fine nail through both, leaving bee room all round; the trough has a light float in it and the wooden case has a small hole in top with a button to cover hole and to open when feed is put in.

The feeder may be put over a hole in the quilt or at one end of hive with quilt turned back; the feeder to be well packed all round with dry rags or sawdust and the whole covered with sawdust cushions. The hive ought to have a half story or rim to hold packing and cover put on. After bees are put out in Spring and contracted, put on feeders and feed a little warm honey each evening; by so doing the bees will be warmer and more active and healthy, queens will begin to lay and the colony will go on humming and prosperous without any Spring dwindling to hurt them. They should not get more feed than they can consume in brood rearing. Continue feeding until they get honey from blossoms of soft and hard maple, &c., enough to keep them in feed,



These small swarms if well attended to, will be the very best for storing honey, when clover comes in they are composed of all young and healthy bees.

Embros.

We should like to hear more about feeding liquid during winter. We think solid food may be fed to better advantage at this time and have always strongly advocated it, but may be mistaken; of course sealed honey is best.—ED.

*For The Canadian Honey Producer.*

### HINTS TO BEE-KEEPERS.

WINTERING BEES—VENTILATION—DEVELOPMENT OF A HOME MARKET.

B. LOSBE.

A few hints on bee-keeping may not be amiss this last day of January. After the storm the sun shines bright which will clear the pelted snow from our bee hives on their summer stands. Very few bees have been lost this winter. My hives are hollow walled except the front which is an inch board to admit the winter sun which I consider a necessity in outside wintering. I have tried a few stocks with a battened screen in front as an experiment, but having not yet seen any difference, except in quietness. Bees should have a rustle occasionally to activity; it seems their nature to rally to the necessity of food and cleanliness, whether outside or confined in darkness. A few late stocks in my cellar, one of them a swarm of Aug. 19th, put in a full set of combs stored of late honey sufficient to be put in with others in a temperature of thirty eight, and after three months of confinement have only lost three or four lbs. in weight. They lose about a bee a day, thirty a month and have not discharged any to signify. Ventilation is a questionable topic, bees naturally close all openings surrounding their abiding place. And my endeavour has already been to comply but at the same time give ample openings at the bottom of the hive for a circulation of air to carry off the accumulated dampness so destructive to bees.

The honey crop seems to be considerable in this section as it has been shipped both east and west to some extent. The demand for honey has taken a new form: Young fellows

coming into town Saturday night, staying late require honey to cool their parched tongues, consequently honey and bees were taken from more than one apiary to satisfy their appetite.

Cobourg.

We are pleased to hear from Mr. Losce. His name was mentioned to us as an extensive and experienced Bee-Keeper nine years ago, when we first became interested in bees.—ED.

*For the Canadian Honey Producer.*

D. P. NIVEN.

The last number of volume II of the C. H. P. is to hand and a splendid one it is. We sometimes hear amateur bee-keepers saying they got little good of bee-papers, but this seems to be a natural failing of beginners. They imagine they know all about the business, whereas they are ignorant of the tenth part of what is really to be known in regard to it. This appears to be the case in regard to bee-keeping more than any other pursuit or calling. Such persons have to learn to know that they know nothing. There are some valuable articles in the above mentioned number. That new method of storing honey by taking advantage of the naturally great activity of a newly lived swarm by Dr. Tinker. His new method seems very plausible and will no doubt be well tried during the coming season. Your article on cellar wintering and the account of your own apiary are also most interesting and instructive. I have proved by experience the facts you mention in my own mode of wintering. I have forty three hives ranged on shelves three feet from the floor with hives two in depth between that and the ceiling. I find they winter best in this way. Last winter I had them five in depth from the floor and all below the two top tiers were affected with dysentary, although this might be attributed in a certain extent to an over high temperature, as I supposed, yet I would advise all to keep them as high up in the cellar as room or space will allow for if dysentery prevades, the bottom ones will certainly be the worst. This winter I am keeping a lower temperature, not higher than 41 or 42°. I find in my very best cellar they are quietest at this and I have the

open window and trap covering outside for ventilation similar to what you mention. So far I never saw bees do better than they are doing. One of my neighbours is sending for bee-candy to-day, which indicates that the winter is well advanced and it is to be feared that bees will come short before the welcome spring will arrive.

I had I have never given you my report for last year which is as following; extracted honey and in combs kept for holding in spring if necessary 325 lbs. Section honey, 200 lbs. In all 525 lbs. surplus. Took only three swarms and Italianized seven hives.

*For the Canadian Honey Producer.*

### MANIPULATION.

BY J. E. POND.

New systems of management of bees, and methods of manipulation are continually cropping out and spread before the readers of our Bee-Journals; this is all right when a series of experiments have proved them to be practical, practicable and valuable, but he who reads between the lines will notice that in every article claiming to present something new, that either some new (?) hive, section, case or honey board is the key to the whole business.

Just at present there is a war of words between two of the would be great lights in bee-keeping; each claiming to be an originator on the same lines though different in detail, and each claiming to be right and that all others are wrong. Now without criticising either, the question may well be asked, has either of them originated any thing? Hundreds of Bee-Keepers are advancing in their ideas and improving on their methods and what is better still are giving their views and ideas to the public from day to day as they advance and improve. The few more cunning perhaps, and with a view to making claims in order to gain notoriety, wait awhile, collate the various ideas given gratis, bunch them and take out a patent. This is all right of course, for patents must stand or fall on their merits, but when the claims of *originality* is made, we may ask again, what is the meaning of the word originator? Is he one that puts a lot of old things together, or in combination, to work out theoretically an old idea, or is he one who strikes out on a new line

and offers something never before heard of, or used in a practical manner?

Some years ago I advised Bee-Keepers to let "patent hives" severely alone. Not that I objected, or now object to patents, or am a believer in patent rights, and in the idea that they should be respected so far as they are valid. The ordinary Bee-Keeper will find if he follows the matter up, that by using some one of the many unpatented hives, &c., that have been fully tested and proved to be good, that he will come out better, far better in the end than by attempting to run after patented hives simply because they are patented.

No bee hive alone, even if covered from top to bottom with patent dates, will gather honey by itself, and none as yet that I have seen will give better yields with less trouble in management than the plain, simple L. hive. So with manipulation and new methods of management. One finds a certain method works well in his own locality, and at once sets it up as the method for the world to follow and use. It may or may not work somewhere else; still he who now is doing well in his own locality, will do well to stick to his own method, rather than to follow the plausibly laid down ideas of another in a different locality. The question of whether wood and zinc honey boards should have more or less perforated zinc strips is of small importance in these days; access must be given to the sections else no honey will be stored there. Particularity and prominence I find is always given to measurements, &c., the reason I presume being the same that I have often seen written as cause of patent articles not working well. If fault is found the answer is ready, *viz*: "you did not work exact. You must get the goods from me," &c.

Now I am not writing a personal article but suggestively, and I advise all to work on well tried lines if proved good, and only attempt new ones when thoroughly proved to be better than the old, I don't discourage experiments, not at all; I simply advise experimenting on a small scale and with one or two colonies at first, then if not successful the loss will be of no consequence.

North Attleboro, Feb. 5th, 1889.

We do not know anything about patent laws. We should however think

that the combination might be such as to become a new invention, for which Bee-Keepers might be grateful. A discussion as to who was the first inventor of an article certainly does not enhance the value of it to the Bee-Keeper.—ED.

*For The Canadian Honey Producer.*

### PRIORITY OF LOCATION.

JAMES HEDDON.

On page 234 I have read with interest the article of brother J. E. Pond on "Priority of Location," and so nearly does he hold precisely my own views that I wish to say a few words upon the subject.

Before going further, I wish to correct a mistake of friend Pettit's, one of your Canadian honey producers who, from several years acquaintance, I have learned to look upon as a clear, practical man who understands our chosen pursuit well. In the commencement of his essay read at your Ontario convention he says: "About two years ago when this thought was presented at the annual meeting of the Ontario Bee-keepers' Association, the principle seemed to be something of small value, and but little notice was taken of it. Not long after, however, Mr. James Heddon called attention to it and wrote approvingly of it, but Mr. Jones thought it was a case of the survival of the fittest." Now, as a correction in regard to my ideas and also priority of the subject, "Priority of Location," allow me to refer you to page 86 of the American Bee Journal for 1884. Also please allow me to quote a few sentences from my article on that subject: "But how to select and then control an area? Use your best judgment in choosing a right location, a detailed description of which cannot be correctly given so as to be a suitable guide to bee-keepers located in so many latitudes and longitudes as your journal visits. In this selection as in all acts, 'do not that to others which you would not that they should do unto you,' for the welfare of your pocket and comfort of your conscience, never locate in a field already occupied. Show your brother bee-keepers that any one who will do that, is just so much nearer related to the knave and fool than you are." Again on page 228, the same year, I have another article on

the same subject, and another on page 340. I notice that in all of these articles, Mr. Pond is my especial antagonist, but yet as you will see, by reading them, I took no position contrary to his on page 234, of your paper nor to Mr. Jones' idea, as cited by Mr. Pettit, that it is a question of the survival of the fittest. I think Dr. Miller proposed legislating, but I am quite sure I never did, for I do not now conceive, and believe that I never did that, the matter could be rightfully legislated upon. The "survival" principal, will attend to it all right. At least it has done so for me. As you will see in the article referred to, I have always been kind and friendly to the few who have started honey production in my locality, after learning that I was making it pay.—Nearly all of them were surprised, and at first treated me as an enemy. But this soon passed away as did their honey production. Not one is left. The reason is clear; they cannot afford to devote their time and attention to honey production in a locality thoroughly stocked, as mine has been and always will be as long as I have the means to keep it so. As I said in one of these articles, honey will be purchased cheaper and get to the mouths of consumers for less money when raised by specialists in fields not divided, consequently the interests of all are in favor of undivided fields, and this principle of the survival of the fittest will do all that we need, to guarantee this successful condition of affairs.

Since I first introduced the subject dated January 24th, 1884, is it not true that bee culture has tended in that direction?

Dowagiac, Mich., February 5th, 1889.

*Written for the Canadian Honey Producer.*

### SOME USEFUL HINTS.

BY G. W. DEMAREE.

In the early days of my career as a Bee-Keeper I was ready to boast on any suitable occasion that I never lost a single colony of bees when wintering them. In those days I worked my bees in 10 frame L. hives and produced comb honey in six pound boxes on the "tearing up plan." I took profitable crops of honey then and the brood chambers of my hives were left full of good sealed honey for my bees to subsist upon through the winter months. This was the secret of my uniform success in wintering and "spring-

ing" my bees, though I was not aware of the chief cause of my success.

In after years when I began to learn the science of forcing my bees to store nearly the whole of the honey in the surplus departments of the hives, leaving but a stint share in the brood departments I began to loose bees in winter. I am quite sure that after a little more fuss about "contraction," brought about in any other way than by solid combs of sealed honey, all practical honey producers will gradually go back to the old system of working the brood department in normal condition. To force all the honey from the brood nest is to "rob" the bees by a system of "refined" cruelty, more torturing in its effects than the old system of gouging the honey from the tops of the "bee gums." In my opinion no system of management will stay long that brings abnormality to the brood nest.

#### THE TIERING UP SYSTEM.

Unlike the contracting system, the tiering up system is employed to keep the bees busy at work in full force through the entire honey storing season. It is not employed to cheat the bees out of their rights to a living that sugar syrup may be substituted in order to inflate the honey production. The contracting system is employed to force all the honey gathered by the bees into "surplus," leaving the colony dwarfed and pinched at the close of the honey season, to be recuperated at a time when there is little to be had from the fields, in order to get them in condition for the fall harvest and for winter. The tiering up system is employed to keep the bees working in full force as long as there is any honey to be gathered, and leaves the bees in normal condition at the close of the season.

The latter system is rational and progressive, while the former is a fair illustration of "robbing Peter to pay Paul."

As to who first employed or devised the "tiering system," I confess I do not know. It no doubt has many fathers.

The first movable frame hive I ever owned was said to have come from Father Langstroth's shops. It was fitted up with three surplus boxes which covered the top of the brood department; the bees entered the boxes through slots cut in the bottoms of the boxes. I used pieces of nice white comb for

starters. After using these boxes for one or two seasons I discovered that the bees would fill the boxes three fourths full in less time than they employed in finishing up the work ready to be taken off, and to overcome this loss by idleness on the part of the bees who seemed to see the end of their job, I devised the tiering up system. I made the boxes smaller so that four of them would cover the top of the brood nest and hold 6 pounds each. The boxes were made of thin stuff and were slotted at top and bottom so that they would match each other and would work interchangeably. They were made by machinery and tiered on to each other perfectly. From 2 to 3 tiers of four boxes each were tiered on all good colonies and the result was my surplus yield was nearly doubled. At the beginning of the season a set of four boxes were placed on the hive and some slips of wood or a bee quilt covered the slots in the tops of the boxes. When the first set of boxes were half full or more, they were raised and another set of four boxes were put under them, and so on till the top boxes were ready to take off, or the season was concluded. This was the tiering up system in perfection and was a positive revolution in bee culture so far as it applied to me. After I procured a honey extractor I carried the tiering system forward, inventing my shallow frame cases and section cases.

In my opinion whatever changes may be made in the implements used to take surplus honey, the tiering up system will be made a part of it.

#### PRIORITY OF LOCATION.

I approve of Mr. Pond's views as expressed in his article published in your last issue on this subject. The advocates of legal interference in these matters seem to have "broken out in a fresh place" lately. I would be pleased if some advocate of legal interference in these matters would tell us what law or laws could be enacted that would reach this case without doing violence to the rights of men. It may be excusable to throw dust into the air, but when it comes to human rights and law questions, we want and must have solid facts. It will do no good to sigh, and say a thing is desirable and is needed, the solid question is, is the thing possible? is it practicable? Under the great charter of human rights every man who has a title deed to a piece of land may keep bees on it if he does not make them a nuisance. This fact alone settles the matter forever.

Christianburg, K'y.

*For The Canadian Honey Producer.*  
**Bee-Keeping in Jamaica.**

H. S. PETTIT.

Perhaps a few words about Jamaica, and "bees and honey," as they are found here would be of interest to frozen Canadian bee-keepers. Jamaica is an Island, one hundred and forty miles long, lying in the Caribbean Sea, ninety miles South of Cuba and bisected by the eighteenth parallel of North latitude. Being within the tropics vegetation is wholly tropical, the chief productions being sugarcane, cocanuts, oranges, bananas, pine-apples, allspice, coffee, bread-fruit, nutmegs, cloves, &c.

The population is a black or mixed race not one tenth part being pure whites. The whites rule the island, the darker portion doing all the manual labour, getting on an average a shilling a day for about six hours work and taking Saturday for a holiday. The blacks particularly enjoy the holiday part of passing time. English law is rigidly enforced, policemen patrolling the roads day and night. An habitually bad character is obliged to report himself at a police station at regular intervals and give a full account of his doings since last report. The black has a very paradise here. A large portion own a small plot of ground each and a little labor yields enough to satisfy all his creature wants except cotton clothing which is obtained by raising a little coffee for sale or by working a day now and then for his white and more wealthy neighbor. I have taken some pains to make myself acquainted with the present status of bee-keeping in Jamaica. It is chiefly managed by the colored land-holder and after the most primitive fashion or style. A number of white estate owners keep bees but give them over to the tender mercy of their trusty black servants with results that can easily be imagined. A Mr. Muirhead of Marshall's "Pen" (farm or ranch) sent to America for honey and wax extractors, a few hives with frames, etc. His chief man had put a few of the hives together, but the frames being without foundation and not properly looked after, the bees had built combs in situations and shapes that were not desired, the extractors had not been used and "pateh hives" were pronounced not what they were "cracked

up" to be. Another gentleman had also sent to America for fixings and given them in charge to his son who seemed interested in bees. He was more successful and actually raised some comb honey and got the bees to build straight combs without comb foundation, but he thought the difficulties to be contended with, such as destructive birds, ants, moths and the rainy season would prevent bee-keeping becoming a success in Jamaica. He has evidently something yet to learn. Bees flourish in a wild state, in trees, rocks, etc., and the blacks by hundreds all over the island keep them in the most wretched way and yet keep them year after year and get a little honey and wax every season. They put them in boxes obtained at the grocery stores. These boxes are made of thin, poor lumber, the sun warps the sides, etc. I once heard a little boy describe a pile of drain tile as a pile of *holes*. So these "hives" could be more properly described as spaces with just enough wood to indicate to the bees where their own particular space belonged. A flower bracket or leaf from a cabbage palm forms a top or cover to keep off the sun. The boxes are placed on the ground with a chip or bit of stick placed under one corner to make it sit more level. The honey season is from November to April or May, March being the most productive when the coffee bushes and orange trees are in their fullest bloom, although most fruits can be made to blossom at any time by pulling off flowers or fruit. There is said to be a lesser flow in June and July. There is a great variety of flowers out now, though I have noticed bees working freely only on the silk cotton trees. These trees are bare of leaves now, having shed them some weeks ago. They are flowering now and leaves appear later. There are several species of trees here that shed their leaves but not all at the same time. This was a surprise to me as I was not aware that any leaves were shed in a tropical country. Bee-keepers "pull" their hives two or three times a year. The regular swarming season is in February though they swarm at other times occasionally. I persuaded a native who is quite an expert with bees to "pull" a hive for me yesterday morning; he is nearly fifty, has kept bees all his life and wears his father's apianian mantle. When I arrived he was trimming a piece of cocanut

fibre for a strainer. Giving this to his better and blacker half to wash and having put a piece of burning cotton on a bit of cocanut fibre he proceeded to select a box sufficiently full to be pulled. Removing the palm leaves he carefully "hefted" the boxes one after another till one was found apparently in a condition to be pulled when by a dexterous turn of the wrists it was turned over. This was done so carefully that the bees did not seem to know that they had been disturbed. He has thirty boxes and after going over about half of his stock he found one to his mind and carefully sat it down bottom side up. Holding his smoker near the bees he blew with his breath a little smoke amongst the combs to quiet them, he next pried the top board off a little so as to insert a knife to cut the combs loose and then removed about half of the contents of the box using a leafy twig from the nearest bush to brush off the bees. Not having an assistant to keep the bees smoked properly they flew all around him and during the whole operation which lasted probably ten minutes, and was performed just in front of several other populous boxes near by he did not get a sting. The cleaned cocanut fiber was placed over a dish and the fattest parts of the combs heaped on this and the whole set in the sun. The comb was bruised and cut up so as to allow the "syrup" to run out. There was some fresh uncapped honey from the silk cotton trees which was light amber colored and of a fine flavor to my taste. None of the honey was dark but about a mean between white clover and buckwheat, and if taken with an extractor would be quite nice. Only half the box is pulled at a time so as not to destroy all the brood and make the bees desert the box. From what I can learn the average annual product is a gallon or two of honey and a few pounds of wax. The wax brings ready money but sugar and sweet fruits being so cheap and abundant the honey is almost unsaleable. That large quantities of fair honey could be procured here I firmly believe, but a market outside of the island would have to be sought. The bees are black exclusively. I cannot hear of any other kind ever having been imported. The bees swarm excessively but from various preventable causes they die off during the rainy seasons in May and October and when honey is scarce. The

pulling is done twice during the winter honey flow and once in August.

P. S. When going to the station yesterday at Spanish Town I heard a great roar over head, on looking up saw bees as if going to buckwheat in the morning. Having 25 minutes to spare, followed them about 30 rods and found an apiary of 200 boxes, black bees in usual style of boxes but set three feet from ground to keep them from toads, which they say annoy bees a good deal.

The son and daughter of the owner (who recently died,) say their father sometimes got 300 gallons from 300 boxes at one pulling, which is done once a year, (in March.) The logwood on which the bees were working principally, has been flowering since Christmas. They say that honey "made" by a new swarm "young bees" is much clearer and nicer than honey from old swarms. They call this "virgin" honey. Definite information as to succession of flowers, best honey yielding plants is hard to get.

Mandeville, Jamaica, Jan. 26th, 1889.

Ewarton, Jamaica, Jan. 30th, 1889.

I came down to the lowlands on 28th, and find logwood trees in full bloom on which the bees are working. Saw an apiary yesterday same as described in letter, except hives were set 3 feet from ground on poles. Some without bottom boards and combs covered with bees projected a handbreath beneath bottom of box. Logwood trees are very like our water or blue beech in appearance and size. They are now one mass of yellow sweet scented flowers. The heart wood and roots are sent to America to make logwood. Saw sugar cane to day from the field turned to sugar, molasses, and rum having been shown the whole process, where 5000 lbs of sugar are turned out every day of the year, cane in all stages of growth. Bee-Keepers pull once a year here.—H. PERRIT.

Read at the Tenth Annual Meeting of the Ontario Agricultural and Experimental Union, Guelph, Feb. 8th, 1889.

### Bee-Keeping a Branch of Agriculture.

To be in a position to treat the subject before me I must refer briefly to a few

peculiarities in the method of fertilization in the organs of a flower vegetation. In doing this I am indebted to various scientific works.

The stamens and pistils are the essential organs of fertilization in the flower. On the stamens grows the pollen. The pistils are the bodies in which the seeds are formed. The pollen coming in contact with the pistils at a certain time is the important step towards reproduction. Many plants have not the anther and pistils upon the same flower; these must be indebted largely to insect life for fertilization. Again many which do bear both anther and pistils must also owe their fertilization to insect life. Self fertilization being prevented by either the anther or pistils maturing first. Again there are others not coming under the head of the two previous, which in order to yield the best seeds and the largest number must be fertilized by crossing.

It has been proved by experiment that in such cases pollen placed on the stigma of the flower on which it grew becomes powerless when pollen is added from the complementary blossom; the prepotency is so arranged as to secure cross fertilization.

Now let us take the apple. Each blossom carries five stigmas, to each stigma belongs a division of the ovary constituting the core fruit. We have here an example of the stigma maturing before the anthers. In the construction of this as I believe in almost every other flower the receptacle for the honey is so arranged that the insect cannot reach it without coming in contact with the anther and the pistils. The wisdom of this is manifest. In the case of the apple blossoms the insect becomes dusted with pollen grains and when visiting another flower deposited upon the sticky surface of a part of the pistils, causing fertilization.

But one fertilization is not sufficient. To secure a perfect apple, five independent fertilizations have to take place. If none are effected the calyx which forms the flesh dries and soon drops. If as is often the case only four fertilizations take place, there is an imperfect development of the calyx, the four parts swelling while the fifth develops imperfectly. The fruit of course is imperfect and is very liable to drop off during the first storm. Opposite the hollow cheek on the apple you find the pips have not been matured.

Gooseberries, currants, raspberries, and strawberries are largely dependent upon insects for fertilization and in the last two undeveloped parts are often found, due to imperfect fertilization, as in the apple, clover, especially white and alsike and not unfrequently the second growth of red (the corolle of which is shorter than in the first growth) is largely visited by bees, and who can estimate the advantages to be gained by the visits of these insects. Of course it may be argued that other insects would act as mediums for the fertilization of flowers and the honey bee may not be required. Let us see. When we consider the frequent rains during spring which for the time hinder the visits of insects and the uncertainty of the temperature we must at once admit that any agent which gives us a more rapid and perfect fertilization of the blossoms which later develop into useful crops on the farm is desirable and that is just what the honey bee does.

Having now shown the utility of the honey bee to secure surer and larger crops and even better specimens of fruit we at once see the advantage of having bees at work on every farm.

The next question will be, who should keep the bees? Probably the natural way will be for every man to gather his own crop. Some of our specialists have said, "we can make it pay better because we can with our experience gather a larger and better crop." and give as an instance the creamery as compared with farm butter making. Now whilst the specialist is of greater use in advancing scientific bee-keeping and is a blessing to the farmers who did not keep bees before he settled in their vicinity the comparison between the specialist in bee-keeping and the creamery is faulty. Look at all the processes the product from the cow has to undergo before it becomes butter or cheese for the table. Not so with honey; the product when left by the bee is fit for table use, or in the case of extracted honey becomes so by a very simple process, as easily learned or more so than milking a cow.

To point to the failures the farmer has made in bee-keeping says nothing, for in comparison the specialist has made as many. And there are probably as many failures in every other business. It may be claimed

that the farmer has already "too many irons in the fire." That may be true, but the question then would be: would he better remove some which year by year yield a less return for capital and labor invested, and which would not diminish the profits from other sources.

Some of our staunchest advocates of specialists are by practical experience feeling they should combine bee-keeping with some other pursuit; that it is better not to have all their eggs in one basket.

Many farmers may not of course be in a position to keep bees to advantage, this must be a matter of individual judgment.

It will certainly be of value in this question to know who are the bee-keepers of Ontario and of Canada. After a careful study of the question I cannot to-day point out one who is keeping bees alone and not combining it with something else and out of these 90 per cent are farmers, while a small percentage of the balance combine it with gardening. Again, I doubt if any man could make bee-keeping in Ontario a paying business, unless he or his neighbors cultivated fields; for the bulk of our honey is secured from land which has been cleared from the primeval forest. Clover and thistle both yield a first class honey, basswood or more properly linden is the only surplus honey we take from the forest. This fact together with what has been shown regarding the fertilization of fruit blossoms and clover make it apparent that bee-keeping is a branch of agriculture. But is it so recognized? the farmer recognizes it as such, the various agricultural papers have been compelled to so class it. Our cousins across the line have given recognition of it as such by having bee-departments at various agricultural colleges and even by having an experimental station devoted entirely to the advancement of bee-keeping. But how are we situated here? The absence of a bee-department at this institution, one so long established offers no pleasing picture to our enterprise. In many instances where the different departments of the farm are referred to, bee-keeping comes under the head of an etc.

Our influential papers give market quotations for every other farm product but honey? No. What wonder then that the exhibit of honey at the Colonial and Indian Exhibition

has been a matter of surprise to those visiting it. This lack of market quotations is an injury to bee-keepers, and is largely the cause of such varying prices; such quotations would also assist in developing our markets. But far more all this lack of recognition is hindering the development of the resources of our country and in reality impoverishing it. The British market will never open to us until we can give them an unailing supply of honey. In England when an article such as Canadian honey drops out of the market for a season, it is uphill work regaining the former position.

In closing I do not ignore the fact that we have amongst us some who see with disfavor every new bee-keeper, and every development of the industry. When a merchant is settled in a prosperous community he would doubtless often desire to see a law passed to prevent another from starting in the same community. But in store-keeping, in bee-keeping as well as many other pursuits, it must be the survival of the fittest, and the best way to look upon this question is not what is best for a few individuals but for the community, for the country; and no argument can refute the statement that One wiser, more far-seeing, and One who never wrongs any one has decreed that bee-keeping is a branch of Agriculture.

R. F. HOLTERMANN,  
Brantford, Canada.

### OUR OWN APIARY.

In another part of this Journal will be found a letter from the Rev. D. P. Niven, Dromore. We find that the bottom rows of colonies (which stand upon a row of empty hives) show more inclination to moisture than any of the upper ones. If room will permit there is no doubt colonies will be better three feet or 2½ from the floor.

Just lately we cleaned the entrance of every colony and quietly swept together and removed all dead bees in the cellar and we believe the air is sweeter and purer for it and the bees have not been disturbed. Thus far no colonies have perished and there are only very slight symptoms of disease in one or two colonies, these were in the bottom row and water standing at the entrance; we have attempted a little experiment with these and if any marked results follow shall report later,



## BEES SWARMING OUT.

The first fine days next Spring, look out for weak colonies to swarm out, and do not forget that prevention is very simple, by placing a piece of perforated zinc at the entrance of the hives of all the weak colonies.

Last season, a swarm, after being hived in good condition, took a notion to desert, and as I was on hand at the time, with a piece of perforated zinc, which I got over the hive-entrance before the queen had gotten out, of course the bees returned, and the next day they tried it over again, with the "laugh" still on my side.—JOHN S. REESE.—*American Bee Journal*.

## Answers to Queries for February.

No. 58. My bees have dysentery—shall I take them out to have a fly and return them to the cellar, or leave them out?—The date is March 20th.

Take them out and return them to the cellar.—Ira Orvis, Whitby, Ont.

If not terrible bad keep them in till they go out for good. They get restless when taken back again.—D. P. Niven, Dromore, Ont.

Do not take them out unless they are bad with dysentery. Many times some of our best colonies will have spots about the entrances and giving them a fly, unless it is a more satisfactory one than they are likely to get at this season, will only aggravate the trouble.—Robt. H. Shipman, Cannington, Ont.

Yes. Take them out and pack them in chaff.—Dr. Tinker, Ohio.

Take them out for fly then return them.—Frank A. Eaton, Bluffton, Ohio.

Heat up the repository as described in my answer to query No. 55. Heat up every day till the bees throw off the moisture from the inside of the hive, when the water collected in their intestinal canals will disappear by exhalation. Don't be fooled by the absurd pollen bosh (theory.) Drive the moisture out of the bees with a high temperature, and the bees will take care of the pollen.—G. W. Demaree, Christianburg, Ont.

I should not take them out unless the weather be warm and settled, and then I should leave them out.—R. L. Taylor, Lapeer, Mich.

Take them out the first good day. Reduce

the number of combs to just what the bees can cover. Protect them well and leave them out.—L. C. Root, Stamford, Conn.

I should first try a thorough warming up in the cellar. If I took them out March 20, I believe I would return them.—Dr. C. C. Miller, Maringo, Ills.

If very bad take them out, otherwise wait until middle of April then leave them out. If taken out now return them.—E. L. Pratt, Marlboro, Mass.

There are many things to consider, but generally I should say, if they *must* go out, leave them out.—S. T. Pettit, Belmont, Ont.

I would leave them where they are until time to put them out to stay.—See 57.—A. D. Allen, Tamworth, Ont.

It depends upon the weather. I should take them out and give them a cleansing flight and if the weather was warm leave them out. If it grew cold again return them to the cellar.—J. E. Pond, North Attleboro.

Take them out for a fly and put back in again and mark where each hive sat, so as to put them on the same stand when placed out to remain, as they will remember the location for several weeks.—Wm. Couse, Streetsville, Ont.

I don't practice taking out bees until they are got out for good.—C. W. Post, Murray, Ont.

If the weather should be warm enough to give them a good flight, put them out, and return them to the cellar in the evening.—Miss Henrietta F. Buller, Campbellford, Ont.

If you can get at them without disturbing others you might, if they are very bad, otherwise, probably better not. Would not feel at all positive as to the best way to treat them.—Ed.

No. 59. Will any kind of sweet, say courser sugars, maple-syrup and the like do to feed the last two weeks to a starving colony in the cellar?

They may keep the colony alive but colonies of this kind never amount to much.—Robt. H. Shipman.

Don't know, never tried them.—Ira Orvis.

Have not tried any thing but good honey, but such might do I think.—D. P. Niven.

Yes.—Dr. Tinker.

Yes.—Frank A. Eaton.

Yes. In my locality. G. W. Demaree.

I think it would do if the colony were strong and healthy.—R. L. Taylor.

No. This is the time they need the very best of food. They should have the very best of early gathered honey at this season.—L. C. Root.

I think I would risk it if they showed no sign of diarrhoea.—Dr. C. C. Miller.

Yes. Maple or cane syrup are as good as honey.—E. L. Pratt.

No.—S. T. Pettit.

Yes. If you cannot get anything better.—A. D. Allen.

No.—And I say so most positively. The only time when such stores can be used safely, is during the season when breeding is going on, and the bees can fly out every day.—J. E. Pond.

I would risk it.—Wm. Couse.

No. For food of that kind they should go on their Summer stand to begin with.—C. W. Post.

It is not well to feed any kind of liquid food to bees while they are in the cellar.—Miss Henrietta F. Buller.

Should recommend nothing but the best of sugar and solid food to them. You can only save a few cents at best, and may lose much more than you can possibly gain.—Ed.

No. 60. Do you recommend stimulative feeding in the Spring? If so how shall it be done?

No. Give abundance of stores in the Fall. Robt. H. Shipman.

They must have enough to eat somehow, but I do not recommend feeding a little every day.—Ira Orvis.

Not unless starving.—D. P. Niven.

Hardly. A colony with sufficient stores and well packed in chaff needs no stimulation and no attention of any kind until it is time to put on the supers. I should like to emphasize this fact and especially in connection with my answers to queries 56 and 57. All weak colonies that need feeding should be carried into a warm room every cool night and then fed, closing entrance with wire cloth.—Dr. Tinker.

I don't, but a great many do.—Frank A. Eaton.

No. Not if the bees have plenty of stores without feeding.—G. W. Demaree.

No. Except by seeing that the bees have plenty of stores.—R. L. Taylor.

Every Bee-Keeper should have prepared for this season by having a good quantity of

honey in good brood combs, saved over from the past season. An abundance of honey near the brood nest is all the stimulative food needed.—L. C. Root.

I would rather have the colony well stocked with food and let them alone.—Dr. C. C. Miller.

Yes. Feed a little each day in White feeder, as shown in my book.—E. L. Pratt.

No.—S. T. Pettit.

I have not done any of it.—A. D. Allen.

I do not. I have tried it thoroughly to my own satisfaction, and found it of no value whatever, but on the contrary just so much time lost.—J. E. Pond.

Uncap a good frame of honey in the hive which will stimulate.—Wm. Couse.

No.—C. W. Post.

If the colonies are strong and well supplied with stores, I doubt whether anything would be gained by stimulative feeding; but any colonies that are short of stores, *i. e.*, have barely enough to keep them, are better to be fed either by laying sticks of bee candy on top of frames, or else feed syrup in any feeder that will enable you to retain all the heat in the hive.—Miss Henrietta F. Buller.

Would not be sure about this. If you understand the business well it might be an advantage to pack warmly and stimulate colonies below the average, but if they have lots of sealed stores we attach far more value to snug packing of the hive. Generally we should say, leave them alone, but see they are not stinted in stores. We would recommend feeding capped honey or if you have not that, then solid sugar in form of bee candy or sugar cake.—Ed.

### Queries for March.

No. 61. Are bees more inclined to swarm with a large or contracted brood nest?

No. 62. Will feeding in the fall for winter stores, when a little honey may be gathered, prevent them foraging for it?

No. 63. Is there no other way to get bees off the frames without shaking? because when there is new honey in the combs it will splash out.

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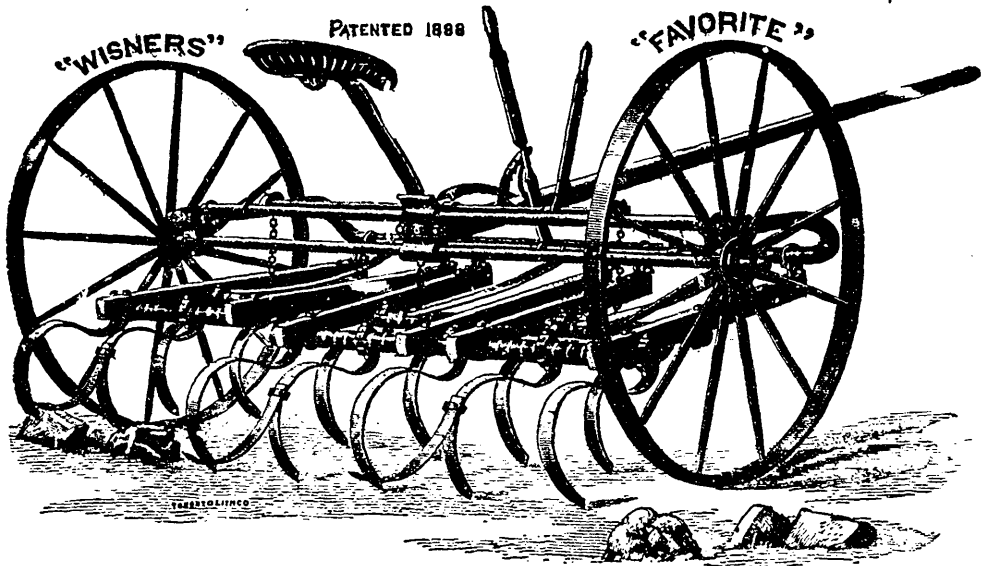
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