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VOL. III, NO. 24

1887

SEPTEMBER 7

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



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VOL. III. No. 24 BEETON, ONT., SEPT. 7, 1887. WHOLE No. 128

EDITORIAL.

THE readers of the BEE JOURNAL will please excuse us if the JOURNAL is not as interesting as it should be. Both the editors are absent attending the different exhibitions, and they will endeavor to make up for any shortcomings in later issues.

We hope to see a large turn out of bee-keepers at the Industrial Exhibition during next week. There will be much of interest shown and many new things will be learned.

We are making arrangements at the present time for doing our own engraving and as soon as these arrangements are completed we will be able to give a number of illustrations in every issue of the JOURNAL. We feel that in this one department we are somewhat behind hand. It adds much to the value of an article if the subject under consideration be nicely set forth in an engraving. It is much more easily understood, and a journal that is in a position to do this, will, we feel, be the journal in demand. We are quite satisfied that considerable of the success which attends the publication of *Gleanings* is due to the excellent engravings which are in each issue.

The *Australasian Bee Journal*, Vol. I No. 1, came to hand some time since, and we must apologise for not having noticed it sooner. We were reminded

of our tardiness by seeing the notice in other journals. We read the initial number with very much pleasure, and from what we have heard of the editor, we feel satisfied that he will be able to produce an interesting journal, if he receives proper support from the Australian bee-keepers. His former attempt at the publication of a journal in New Zealand did not meet with the success which it deserved, but it was not the fault of the editor nor of the contents of the journal; there did not seem to be the proper support given to the enterprise. Mr. Hopkins now believes that a journal can be supported and he has decided on again trying his luck. We wish it every success.

OUR OWN APIARY.

THE BEST MATERIAL FOR A BEE-YARD.

FOR this purpose we have tried almost every kind of soil, clay, loam, light and heavy, and sand. We have one yard covered with sand taken from a deep cellar. We just spread it on the sod about 6 to 10 inches deep. In another of our bee yards we have both sand loam and sod, but we find that leached ashes give us the best satisfaction. After it becomes wet and packed it keeps down all grass and weeds. It will get as smooth as a floor and almost as solid as cement while damp. We first used the material in front of the hives to prevent weeds and

grass growing and to enable us to see the queens if they should happen to be killed or dragged out. Any one having this material sufficiently convenient to enable them to use it will be pleased if they cover their bee yard with it. It will save an immense amount of work keeping down weeds and will wholly repay a reasonable expenditure to procure the material.

For the Canadian Bee Journal.

JOTTINGS OFF THE TRACK, NO. 2.

WHEN I wrote "Jottings Off the Track" number one, a month ago or so, I certainly had no idea that I would be writing another jottings off the working track so soon again, but so it is. I had succumbed to the excessive heat and over-work in July, and the physical factory had been shut up for repairs as there stated. When I wrote, the wheels were resuming their motion (slowly, to be sure) and I looked for an early and vigorous rattle of the machinery of life again, but there came another standstill much more pronounced and obstinate than the first. Through a little impatience in hurrying up motion (impelled by an ever-present ambition) I found myself suddenly prostrated by a very serious relapse, and most unfortunately this came upon me the very day I was to go to the station to meet Mr. and Mrs. Cowan on their way to make me a promised visit. In my last I spoke of having written Mr. Cowan to make me a visit if possible on his way up through Canada, and he had very kindly accepted the invitation, himself and Mrs. Cowan having to put themselves out a good deal to do so, as they had steamer tickets from the St. Lawrence to Toronto, and were therefore obliged to leave their boat at Kingston and proceed up to Napanee by rail and return thence to their boat. To kindly do this and then only meet with disappointment was really too bad, the idea of which almost made me prostrate again in a few days when I got able to realize it. And my own disappointment in missing that visit from Mr. Cowan, which would have been so interesting, pleasant, and profitable to me, is too deep to be put into words. Gradually recovering my health and strength I hoped still to be able to secure the visit from Mr. and Mrs. Cowan on their way east again if perchance they should on their return home pass this way. But in a letter received to-day from them from the Agricultural College, Michigan, I find it will be quite impossible for them to do so, and the kind invitation it contains to try and meet them at the Toronto

Exhibition is, I suppose, my only remaining alternative. Should I be sufficiently recovered in health and strength I shall certainly go up to the exhibition a day or two the second week and will then be pleased to make the acquaintance of Mr. Cowan and other friends whom I have not yet had the pleasure of meeting.

THE WEATHER.

The weather is a stereotyped topic and a hackneyed topic, but its exceptional character this season and its effects upon our apianian industry give it a peculiar importance in the bee journals, the newspapers, and in common conversation everywhere. Down here the drought still continues. Since my last letter we have only had one shower of about ten or fifteen minute's duration—scarcely enough to go to the roots of anything. But the temperature has been so much lower during August than July that the parching up process has not gone on as it did in the latter month. The shower we did have, however, started some buckwheat and other flora into bloom from which the bees have been getting enough to keep them moderately active in brooding, etc. This is certainly a very material aid to us in getting our bees in good shape for winter. And no prudent bee-keeper will neglect this important part of the season's work, especially this fall when extra and special preparations are requisite. The first and foremost work in importance is to give them plenty of stores and do it at once. A colony with plenty and to spare will remain comparatively quiet through the fall, as they should do, instead of being under the necessity of scouring the country round about for forage and prying into every nook and corner wherever there is any prospect of getting a little sweet to add to their scanty stores. When bees are allowed to wear themselves out in this fashion in the fall they can hardly be expected to live till next May, especially bees that have been hatched in July. There is no wisdom in late feeding. Whatever feeding you have to do, and have neglected till now, do it at once.

THE COLOR OF THE HONEY.

A prolonged drought through the whole honey season seems to affect the color as well as the quantity and quality of the nectar. I have noticed this in particular this season. The extracted honey is nearly all amber color or dark. The comb honey is, however, a better color being somewhat lighter. Of course in a drought when no one source of honey is abundant the bees work on a greater variety of flowers—anywhere

and everywhere where they can get nectar; and the red clover heads being smaller than usual and stunted their nectar is thus rendered accessible to the bees.

ALLEN PRINGLE.

Selby, Ont., Sept. 1st, 1887.

Official Report of U. S. Entomologist.

TREMBLING BEES--FOUL BROOD.

N. W. M'LAIN.

THE "QUAKING DISEASE."

WHEN bees are unable to obtain from ordinary sources a supply of saline alkaline aliment, indispensable to their health and vigor and to the normal performance of their functions, they seek a supply from any available source. At such times they throng upon the milk-weed and mullein which exude a salty sap. At such times large numbers of dead bees may be found at the foot of the mullein stalks, and thousands perish in the fields, and thousands more which reach their hives, being low in vitality, and unable to free themselves from the meshes of the silken fiber, in which legs and wings are bound, die in the hive or crawl forth to perish. The action of these starved and weakened bees when attempting to rise and fly or to rid themselves from the mesh of silky web, causes a peculiar nervous motion, and this is one manifestation of that which is called the "quaking disease," or the "nameless disease." If examined with a microscope, many are found entangled with the filaments from the plants, and their stomachs are entirely empty.

The honey from hives containing colonies so affected has a peculiar and very disagreeable taste and odor, somewhat like that of fermented honey indicating that some constituent essential in conserving it was lacking, and the cell-caps are dark, smooth and greasy in appearance, and an offensive odor is emitted from the hive. An analysis of honey taken from such colonies, made by the chemist of the Department, fails to reveal what element is lacking.

I have treated a number of apiaries so affected, using an application of strong brine, to which was added soda sufficient to make the alkaline taste faintly discernible. The hive should be opened, and each frame should be thoroughly dampened with spray from an atomizer, or the warm brine may be applied by using a sprinkler with very small holes in the rose, care being taken to use only enough to thoroughly dampen the bees and combs. The alighting-boards also should be thoroughly wet. The treatment should be applied morning and evening until the

disorder disappears, which is usually in three or four days; a decided improvement being usually noticeable in twenty-four hours. The honey should be extracted and diluted by adding the brine, and, after being nearly heated to the boiling-point for ten minutes, may be safely fed to bees. The apiaries were last winter supplied with this food alone. Both wintered well. Vessels containing brine should always be kept in or near the apiary. Pieces of burnt bone or rotten wood should be kept in the vessels of brine, and these vessels should be protected from the rain.

Another form of the so-called "quaking disease" appears to result from hereditary causes; for, if the queen be removed from the colony in which the disorder prevails, and a young, vigorous queen be substituted, in due time the disorder disappears. In very rare instances bees also gather poisonous nectar from plants, such as fox-glove or digitalis, the eating of which, it is reported, results in paralysis, another manifestation of the so-called "nameless disease."

THE FOUL BROOD DISEASE.

One of the most malignant diseases incident to bees is called the "foul brood" disease. What pleuro-pneumonia and hog-cholera are to the dairyman and swine-breeder, foul brood is to the apiarist. This disease is so stealthy and so virulent and so widely distributed, no locality in the United States being assured of immunity, that much apprehension is felt, and some of the States have enacted laws having for their object its control and extirpation. In many States the ravages of this scourge have resulted in ruinous losses to bee-keepers, and many on this account have been deterred from engaging in this profitable branch of husbandry.

During the past year I have given much attention to the study of this disease and the experiments for its prevention and cure. In making my investigations and experiments concerning the origin and nature of this disease and the means of its prevention and cure, I have collected a great amount of information from my own experience and from the experience of many others. Concerning the origin of the disease and its means of communication, the evidence obtained is somewhat conflicting.

That the disease is actually contagious appears certain. That it is always communicated through the commonly accredited agencies is uncertain. That the disease is persistent and usually reproduces itself whenever the germs find the proper conditions for development is verified by experience. That the germs of this disease may be carried on the clothing of the apiarist and in and upon the bodies of the bees

from one apiary to another, and that they be borne by the wind from one hive to another in the same apiary, and that the disease-germs may be liberated from the decomposing bodies of other insects and scattered over other objects with which the bees come in contact, seem probable.

That the disease is destructive to bees as well as brood; that live pollen is the medium through which the contagion is most commonly and most rapidly spread; and that the disease yields readily to treatment which is simple, cheap, and easily applied, appear to be true, in support of which I submit the following detailed account of my experiments and observations:

On June 1, an apiarist having over 200 colonies in his apiary reported to me that he had discovered two cases of malignant foul-brood, and that unmistakable evidences of its presence were apparent in 25 other colonies. As I knew this man was without experience with this disease, I could not hope that he was mistaken. I knew that he had had unenviable opportunities, having been a bee-keeper for many years where this disease had been prevalent, and two years ago he himself had consigned 148 colonies to the flames as incurable. I at once gave him the following formula for a remedy:

To 3 pints of soft water add 1 pint of dairy salt. Use an earthen vessel. Raise the temperature to 90° F. Stir till the salt is thoroughly dissolved. Add 1 pint of soft water boiling hot, in which has been dissolved 4 table-spoonfuls of bicarbonate of soda. Stir thoroughly while adding to the mixture sufficient honey or syrup to make it quite sweet, but not enough to perceptibly thicken. To $\frac{1}{4}$ of an ounce of pure salicylic acid (the crystal) add alcohol sufficient to thoroughly cut it (about 1 ounce), and add this to the mixture while still warm, and when thoroughly stirred leave standing for two or three hours, when it becomes settled and clear.

Treatment.—Shake the bees from the combs and extract the honey as clearly as possible. Then thoroughly atomize the combs, blowing a spray of the mixture over and into the cells, using a large atomizer throwing a copious spray; then return the combs to the bees. Combs having considerable quantities of pollen should be melted into wax and the refuse burned. If there is no honey to be obtained in the fields, feed syrup or the honey which has just been extracted. If syrup is used, add 1 ounce of the remedy to each quart of the syrup fed. If the honey is used, add 2½ ounces of the remedy to each quart of honey fed. The honey and syrup should be fed warm and the remedy thoroughly

stirred in, and no more should be furnished than is consumed.

Give all the colonies in the apiary one copious application of the remedy, simply setting the frames apart so that they may be freely exposed to the spray. This treatment frequently reveals the presence of disease where it was not before possible to detect it. The quantity prescribed, applied by means of a large atomizer, is sufficient to treat 150 colonies. Continue the treatment by thoroughly and copiously spraying the diseased colonies at intervals of three days, simply setting the frames apart so as to direct the spray entirely over the combs and bees. In order to keep the bees from bringing in fresh pollen, burn old dry bones to an ash and pulverize in a mortar and sift through a fine wire-cloth sieve, and make a mixture of rye-flour and bone-flour, using three parts of rye-flour and one of bone-flour, adding enough of the syrup or medicated honey to make a thick paste. Spread this paste over part of one side of a disinfected comb, pressing it into the cells with a stiff brush or a thin honey-knife, and hang this in the hive next to the brood. Continue this treatment until a cure is effected. Keep sweetened brine at all times accessible to the bees, and continue the use of the rye and bone flour paste while the colonies are recuperating.

As a preventive apply the remedy in the form of a spray over the tops of the frames once every week until the disease has disappeared from the apiary.

On June 20, the apiarist above referred to, reported as follows:

"Number of colonies in the apiary on June 1, 210. Number of colonies apparently diseased, 25. Treatment applied as directed to the whole apiary. Number of colonies actually diseased, 64. The disease present in all stages of progress; in some cases just appearing, in some well developed; in others the contents of the hives were a black mass, the brood-combs nearly rotten, not an egg to be seen, and every cell of brood dead, and the stench from the hives nauseating. Have given the diseased colonies three applications, the first time extracting the honey. Effect of treatment instantaneous even upon apparently hopeless cases. Every colony save five is entirely free from any trace of disease, and these five are responding to treatment rapidly. I examined a colony to-day which two weeks ago had combs of brood almost rotten. No trace of the disease remains. I had 4,000 frames of extra comb. After hiving a few swarms, on some of them I found the disease present in every case. I then melted everyone of these extra combs into wax, cleared and scalded and disinfected every

hive, and hived the swarms on frames filled with comb foundation. One of my neighbors, having an apiary of sixty colonies, had thirty-eight cases of foul brood, and before I was aware of it he had burned up a number of them. The remainder we treated as directed. His yard is now entirely free from disease. The cost of the remedy was just ten cents. This prescription, if thoroughly applied according to your directions, will speedily and effectually cure the most hopeless and forlorn case of foul brood."

It was afterwards found that the melting of the combs and scalding of the hives was not necessary.

After requesting this same apiarist to make some further tests, the nature of which will appear from what follows, on August 1 he made the following report :

"In five of my best colonies, which had shown no symptoms of disease, I placed frames of brood from diseased colonies, and all evidences of disease speedily disappeared. To one colony from which the bees had swarmed out, leaving less than half a pint of bees between the black, rotten combs and not an egg in the hive and every cell of uncapped brood dead, and not more than one bee hatching to every square inch of brood, after thoroughly applying the remedy I introduced a queen just crawling from the cell. To-day I take pleasure in exhibiting this colony as one of the finest I own, lacking only a sufficient store of honey, and this without the addition to the odorous hive and rotten combs of a single bee, cell, or brood, or anything whatever to assist except the young queen.

"I extracted the honey from diseased colonies and treated the combs of such with the remedy as directed, and then exchanged hives and combs, giving the infected hives and combs to the healthy bees without cleansing or disinfecting a hive, and the diseased bees were given the hive and combs lately occupied by the healthy colonies. The contagion did not spread, and after two or three applications of the remedy all traces of it disappeared. I fed back the honey extracted from the diseased colonies for the bees to use in breeding, adding 2½ ounces of the remedy to each quart; and I also fed the mixture of bone-ash, rye-flour, and honey as a substitute for pollen by pressing the paste into the cells on one side of a comb, and this I placed next to the brood in each hive. I would not advise any one to feed this bone-flour and rye-flour paste unless they wish to rear a great many bees. I also fed the salt, alkali and acid mixture outside in the apiary, so that all the colonies could help themselves. No; I do not fear that

any of the mixture will be stored for winter to get into the surplus apartment, as the bees seem determined to use all they can get of it in brood-rearing. All my hives are running over with bees ready for the fall honey harvest.

"As requested, I placed frames of sealed honey from diseased colonies in healthy colonies, and the disease was not communicated; but the frames from which the honey had been extracted, such as contained pollen, uniformly carried with them the contagion, unless the combs were first thoroughly sprayed with the antidote, and colonies gathering no pollen, or but little pollen, recovered much sooner than those gathering pollen in considerable quantities—that is to say, the more pollen, the more treatment required.

"In reply to your question asking by what means and in what manner the disease was communicated to my apiary, I answer: I at first thought that it had originated spontaneously, but later and more careful inquiry leads me to believe that I introduced it into my apiary through my own carelessness. But I and my neighbor (to whom reference was made in a former report) spent a day in some apiaries some distance from home in which the disease was raging. It would seem true that we brought the contagion home in our clothing. Other apiarists in our country who kept away from the contagion had no trouble. As to the progress of the disease in individual colonies, I would say that three or four weeks from the time the first cells of diseased brood are noticeable is sufficient to complete the ruin beyond redemption. I am surprised to hear that in some localities a colony may be affected for three or four months before ruin is complete. I have succeeded in rearing some queens from one of these diseased colonies, treated with the remedy without the comb-frames, and I will give them every possible chance to reproduce and propagate the disease. I have no fear of a return of the disease where the treatment has been thorough."

2. Number of colonies in the apiary, 14. Every colony nearly ruined by the disease in its most malignant form. This apiary is located on the same ground where 145 colonies perished last year from the same cause. The whole yard had been swept clean, everything had been burned up, and an entirely new stock procured. Twelve colonies in this apiary were treated by copious and thorough applications of the remedy, simply by setting the frames apart in the hives so that the spray could be directed over both sides. The frames containing brood were not removed from the hive, neither was the honey extracted. The treatment was applied every three or four days, and in three weeks the col-

onies were free from all appearance of disease. The other two colonies were treated with what is known as "the coffee cure," finely ground coffee being used as an antiseptic. The coffee failed to furnish any relief. Being dusted over and into the cells, it killed the little remaining unsealed brood. The salt, alkali, and acid remedy being applied, these two colonies also rallied, and "everything is all right now," was the last report.

3. Number of colonies, 100. Number apparently diseased, 48. A number of colonies had already been burned when the disease was reported. The remedy was thoroughly applied as directed, and in fifteen days the contagion had disappeared.

All the evidence so far obtained seems to prove that pollen is the medium through which the contagion is commonly introduced into the hive, and by which it is communicated to both bees and brood.

The bacteria, "the disease germs," having been lately deposited on the pollen (from what source is not positively known, but probably from the decomposing bodies of other insects) before the organisms are washed from the blossoms by the heat of the sun, as they lie exposed to his rays without any element essential to their culture and growth, are carried and stored with the pollen in the cell, or pass into the digestive system along with the live pollen taken by the bees for their own nourishment. By this means these agents of destruction are introduced into the organism of the bees, and through the same medium are they introduced into the cells of the uncapped larvæ. The bacteria, having found a lodgment in the organism of a bee, may or may not cause speedy death. If the bees are young and vigorous they may resist the ravages of the infection, yielding only after the organism is riddled with the bacteria, but if the bees are old and low in vitality, the infection, if left to itself, brings speedy ruin. In the spring of the year I have dissected bees which had passed the winter in a colony in which this disease was present when the bees were put away in winter quarters the fall before. Their bodies had been completely honey-combed by bacteria.

The fact that if a diseased colony is removed from the infested combs and hive, and placed in an empty hive or in a hive with frames supplied with comb foundation, even if the new hive be at once placed on the old location and the old hive and infested combs be burned and the bees at once liberated, the disease commonly disappears seems also to furnish additional proof that the contagion is usually carried into the hive in the

pollen, and, further, that the "disease germs" do not long retain their virility if exposed to the rain and rays of the sun; otherwise the bees would continue to carry in the infection. The bees being compelled to consume the contents of their honey-sacs in building new combs, none of the germs remain to be regurgitated in the new cells; but by this practice the bees are left to the tender mercies of the bacteria, unless they be treated with an antidote. For obvious reasons the queens in such colonies should in any event be superseded as soon as possible. This method of treatment also contemplates the destruction or renovation of all hives and frames, the destruction of all brood, and the melting of all combs; a large percentage of the capital in honey-producing.

Another reason for believing that, except in rare cases, the disease is introduced by pollen is found in the fact that the larvæ rarely ever exhibit any symptoms of disease until about the time when the process of weaning begins, at which time the character of the food is changed from the glandular secretion, the pap, to the partially digested and undigested food. Live pollen is then added to the larval food, and with the bacteria in greater or less numbers; growth is arrested; death ensues; putrefication follows, and the soft pulp, of a grayish-brown color, settles to the lower side of the cell. As the mass dries up it becomes glutinous and stringy and reddish-brown in color, and emits an offensive odor. Some of the larvæ will be partially capped, some completely capped and some left uncapped, the condition in which the brood is left depending, I believe, upon the virulence with which the disease attacks both bees and brood. The remedies prescribed appear to destroy the bacteria and cure the bees of the contagion and restore them to natural vigor. The worker bees then cleanse the hive of dead bees and brood and clean out and renovate the cells, and the colony resumes its normal condition.

That the contagion may sometimes be borne from hive to hive by the wind appears to be true, as it was observed in one of the apiaries which I treated for this disease during the past summer, that of a large number of diseased colonies in the apiary, with the exception of two colonies, all were located to the north-east of the colony in which the disease first appeared. The prevailing wind had been from the south-west.

That the disease-germs may be carried upon the clothing and hands appears probable from the fact that in one neighborhood the disease appeared in only two apiaries, the owners of which had spent some time working among diseased colonies at some distance from home, while other apiarists in that locality who had

kept away from the contagion had no trouble from foul brood.

Aurora, Ill., Dec. 31, 1886.

American Apiculturist.

**Latest Swarms, Queenless Colonies,
Fertile Workers.**

Q SUPPOSE a swarm issues in September, should the bees be placed in an empty hive, or the queen cells removed from the parent stock and the bees returned?

2. Is not late swarming induced by the bees superseding an old queen?
3. If this is the case should not a young queen be introduced?
4. How long may a colony remain queenless after September 1st, without apparent damage to the stock?
5. Suppose a colony remain queenless two months from September 1st, will fertile workers develop?

C. P. W.

ANSWERS BY J. E. POND.

1. I should re-hive it in the colony it issued from, for the reason, that even if I had filled frames of comb sufficient for winter stores, I should fear that there would not be brood enough reared after September 1st to make a good colony.
2. Sometimes it is, and probably such is the usual cause. It may, however, arise from other causes.
3. Yes; still it might not relieve the trouble.
4. It would depend upon the amount of brood. If the frames were full of brood, it would go through the winter probably, but there are so many matters to be taken into consideration that it is impossible to lay down a rule. Every colony must be judged by itself, and from its own circumstance and condition.
5. They may and they may not. Fertile workers have never troubled myself, but I judge from information and reading, that they are not so apt to turn up in the fall as in the spring. I should hardly expect to see them in the fall after September 1st, and should only expect to find them the following spring.

ANSWERS BY HILAS D. DAVIS.

1. Return to parent stock. I believe in strong colonies to put into winter quarters.
2. Sometimes by superseding an old queen and sometimes by the stimulus of the fall honey flow.
3. Yes.
4. I have never had occasion to experiment in that direction as I always keep my stocks well queened.
5. I do not know, as I never had a fertile worker in any of my apiaries.

ANSWERS BY G. W. DEMAREE.

1. If there were drones on hand, I would kill the queen and return the swarm. If I had no drones, I would kill the queen and introduce another if I had to buy one.
2. Yes, no other cause under the sun, and that is the reason I would despatch the queen.
3. Yes.
4. I could keep the colony till March without apparent injury, if I was bound to do it.
5. They may and they may not. Generally, they will not at that season of the year.

ANSWERS BY C. C. MILLER.

1. That depends; as a general rule it might be best to return, but in a locality with a heavy and long-continued flow of fall honey, the swarm might be hived.
2. I think hardly, but I don't know much about it.
3. I think not. When they commence the superseding business, they'll get through with it about as well to be let alone.
4. If little or no honey is yielding, the damage might not be apparent without examination till the next spring.
5. Generally not, but season may have something to do with it.

ANSWERS BY JAMES HEDDON.

1. Whether you accept or return the swarms depends upon circumstances, and the latitude in which you live. Here, we should return the swarm, but not until after the bees had destroyed the cells themselves. We cannot afford to spend so much time and to handle our colonies over so much as to go into the cell-clipping business. There is a much surer and less laborious way which I have described in former articles.
2. Quite apt to be so induced.
3. It would be well for the colony to replace the old queen with a young one.
4. Until April 1 of the next year.
5. I think I have had fertile workers develop after Sept. 1. That is the time bees cease breeding. here

ANSWERS BY R. L. TAYLOR.

1. That depends; if you want increase and the swarm is strong, hive it on foundation. If the old queen is not valuable kill her and put the swarm back.
2. Sometimes, I think, but not as a rule.
3. No, if that is the case let them rear a young one from one of the cells.
4. A colony, having plenty of brood on September 1, would not be greatly damaged if deprived of a queen for three or four weeks; but if the colony have little or no brood, the

absence of the queen for one day would, I think, be a damage.

5. They would in some colonies; in many colonies they would not.

ANSWERS BY J. H. MARTIN.

1. For my locality, a swarm in September would be an unheard-of case, and would be returned to the parent stock.

2. Our bees never swarm or have the swarming fever except when getting honey freely. Swarms having an old queen will swarm at such times, but if the queen is very old and unprolific she will be superceded, and, ten times in one, there will be no swarm, or if a swarm issues it will be a small one.

3. It is a good plan to supercede all old and unprolific queens in August or September.

4. I don't know. I have had bees winter from September to February with no brood, but how much longer they would hold out without damage and no queen I am unable to say. It is well known that a queenless colony is usually very uneasy and the bees are constantly leaving the hive until it is completely depleted.

5. I have had fertile workers develop after September 1st.

ANSWERS BY HENRY ALLEY.

1. Destroy the cells, return the bees, and give the colony a new queen. I would kill all queens that should lead off a swarm in September.

2. In my opinion late swarming is owing, as a rule, to the superceding of an old queen; this is why I should destroy the queen that leads a swarm so late in the season.

3. Yes, as stated above.

4. A queen should be introduced late in the fall, as soon as it is known that a colony is queenless. Such a colony would winter unless the queen was lost in July previous; but it would be in bad condition in the spring, so far as the number of bees is concerned, as the bees would be very uneasy all winter and continually getting out of the hive; the sooner re-queened the better.

5. No; fertile workers would not take possession till spring. As soon as the bees can fly, in March or April, the fertile worker will commence to lay eggs. At that time the best plan would be to destroy all; as, if a queen is introduced, the worker bees would continue for a while to fill the cells with eggs, and, before any brood could be reared, the entire colony would disappear.

We have just received from our lithographers several hundred thousand labels of the various kinds, so that those who had labels on order will receive them at once. The price of these is much cheaper this year and we anticipate a larger sale than heretofore.

BOTANICAL.

For the Canadian Bee Journal.

HONEY PLANTS.

DEAR SIR:—On returning from my holiday trip I find two plants awaiting identification, sent by C. F. Bridgman, Killdonan, Man.

No 1 is *Symphoricarpus occidentalis*, (wolfberry) belonging to the *Caprifoliaceæ* or honey-suckle family; flowers large, funnel-formed, in close axillary and terminal spikes, white tinged with rose; color. Stamens exserted, corolla bearded within. Found in Michigan and Northwestward.

No. 2 is *Spiræa Salisifolia*, (meadow-sweet); family *Rosaceæ*. It is widely diffused throughout Canada and the United States, and is generally found growing in wet meadows and along the banks of streams. Flowers generally white but sometimes tinged with purple.

C. MACPHERSON.

Prescott, Aug 20, 1887.

SUNDRY SELECTIONS.

DYSENTERY IN SUMMER.

J. Y. YORKE.—I have one colony of bees that are hanging out all the time and are spotting the hive from top to bottom, and they have not gathered a pound of honey since the 1st of June. They have swarmed twice and they came out every day for two weeks as though they were going to swarm, and they would stay out an hour or two and then cluster on the front the size of a felt hat. Can you tell me what is the cause? and if a subscriber of the BEE JOURNAL can tell me a remedy I will be pleased.

Evergreen Apiary, Wardsville, Ont.

It would appear from the above that your bees have had dysentery, and yet we do not know how to account for that in the summer season. It is quite a usual thing for bees to lay out during the hot weather after their hive is filled with honey and even if you had sections on the hive. If they had stored it pretty full of honey and reduced the brooding space down very small they sometimes refuse to enter the sections, but if they have gathered no honey since the 1st of June they should have had all their honey consumed long ago unless they had a large stock on hand. Last season many colonies gathered large quantities of honey dew (or bug juice as some call it.) If they had a large stock of that on hand and were consuming it no doubt it would affect them some-

Perhaps some of our readers can say more on this subject, but if you have anything further to ask in reference to the matter we would be pleased to hear what you may have to say.

WM. COWIE.—A stock of bees which when taken out last spring was about gone up, "a mere handful." I contracted them to one frame with division board and added frames as they required them until the hive was filled. I had paid little attention to it as I expected no honey or increase, and as I was going around them yesterday feeling the weight of them to see if they were requiring any help, and to my surprise this one mentioned was exceedingly light, and on opening it I found the combs containing a great many dead larvae and bee material in cells uncapped but dead. Some were discolored others quite white, not many bees in the hive but seeming to be making quite an effort to increase as all the empty cells had small larvae or eggs in them. Please say in C. B. J. what is wrong and the cause. The queen is a daughter, from queen purchased from you, in fact the first and only one I had, as she, the one I bought died through the winter. I am feeding three stocks very little honey here this season. What can be wrong with the *Bee Keeper's Magazine*, I have had but two numbers yet, No. 8 and 5, May and August. I am well pleased with the C. B. J. in fact I don't see how I could do without it, there is so much instruction contained in the writings of your contributors.
East Linton, August 31st, 1887.

We infer from what you say that the bees are quite short of stores owing no doubt to their excessive breeding, and having too few old bees to gather stores early in the season when honey was plentiful, and as soon as they got sufficiently strong to store surplus the honey season would be over. If you feed them they will nurse their larvae and not allow it to starve and die. When bees run short of stores and are brooding they will eat the food that is to be fed the larvae, sometimes bite open and suck the larvae also uncapping the young larvae, but this only occurs in extreme cases. They will do almost anything rather than starve.

NEVER LOST A COLONY IN THREE YEARS.

J. DERTZ.—I am very much interested in the different articles on "wintering" in the last number. My experience in wintering in the cellar dates back but three years. In '83 I built a new house, in one end of my cellar I fitted up a room 16 x 16 x 7 for wintering bees. The first winter I put in three colonies, the next seven, and last winter eighteen, and never lost a colony. I use the "Simp. hive." I put them in the cellar when cold weather sets in. I lay two scantling across saw horses and place the hives upon the scantling, and instead of the bottom boards I tack on mosquito netting to confine the bees, then I place one tier of hives along the

scantling with spaces between them, I place the next tier so that the bottom of the hives shall come directly over the spaces in the lower tier. I have two windows for ventilation which I keep darkened all the time. I visit the bees every night just before I retire, if I find them a little uneasy (the bees are my only thermometer) I raise the window a little, close it in the morning to keep out the light. My cellar is dry being in a gravel bed. I have now 41 colonies and this is my experience and management on wintering as a new beginner. Any suggestion as an improvement upon this plan from you or any of your contributors will be thankfully received. I tender my thanks to Mr. Hutchinson for publishing that little book, and if he should ever happen in our part of the country and give us a call I and my wife would give him a royal welcome.

Ellington, Tuscola Co., Mich., Aug. 29th, 1887.

Brother Hutchinson deserves a right royal reception from every bee-keeper for that valuable work of his which should be in the hands of all who intend to make bee-keeping profitable. Your system of wintering has proved so successful that we would not advise you to change it but continue it just as long as you are successful, and from the amount of attention that you bestow upon them we think that you will be as successful in the future as you have been in the past. We think that you have done splendidly in wintering all the bees that you put into winter quarters. None of us could do more. You don't say how you prepare your bees before you put them into winter quarters, but we suppose they have plenty of good stores well sealed long before the time arrives to place them in the cellar, and we fancy that you do not disturb them any later in the season than possible.

THE CANADIAN BEE JOURNAL.

THE D. A. JONES Co., Ltd.,

PUBLISHERS,

BEETON, ONTARIO, SEPTEMBER 7, 1887.

BUSINESS DEPARTMENT.

The publishers of the C. B. J. feel sanguine that before the Exhibition closes they will be able to add a large number of names to their already goodly list. The premiums which we are now offering to new subscribers are in themselves of sufficient value to more than pay the price of subscription of the BEE JOURNAL for one year. It is unnecessary for us to say that it is more than we can really afford to give such large premiums as we are offering as an inducement to new subscribers. Our object in doing so is that we may once get them on our list and

we feel sure that after they read the paper for a time they will understand and appreciate its worth, and we shall have no difficulty in retaining them as subscribers. The greater number of subscribers we have the greater efforts we shall make to have our JOURNAL readable and interesting.

We have just made a very heavy purchase of note heads and envelopes, and in consequence of large buying we are able to get the price made to us very low. Here is an offer which we will make to our customers and the readers of the CANADIAN BEE JOURNAL for a short time: We will send per mail, post paid, 250 good large white envelopes with card printed in the corner, and 250 note heads with card and date line, all for the sum of \$1.00. There is nothing so nice and nothing which adds more to the looks of a person's correspondence than to have a nicely printed heading on the note paper and card on the corner of the envelope, and when this can be obtained for absolutely less than the price of the paper in the ordinary way, there should be a large sale. We have just sufficient for 400 packages of this description and we expect that we shall not be long in disposing of them.

We did not mention that the envelopes which we included in our offer of last week as above, were put up in neat little boxes holding just the number—250. They can be sent nicely by mail. We may say that the postage is ten cents, which we pay; so that taking the matter of postage into consideration, the cost of note heads and envelopes is really 90 cents.

We are prepared to buy any quantity of No. 2 Section Honey. Those having such for sale will kindly write us saying the quantity they have on hand and how much per pound they will require for it.

ONE POUND GLASS JARS, SCREW TOP.



We are just advised that these have been shipped from the glass works, and we expect them in a few days. To save breaking bulk as much as we can, we append below a table of the quantities in which the shipment is put up, with prices per barrel. In estimating the price we have calculated the same as for full gross lots, an allowance of 15c. being made per barrel.

NO. OF BARRELS	NO OF DOZEN	PRICE
7	9½	\$6.55
Bal. of Shipment	9½	6.75

We have already found it necessary to duplicate our order for the above, and we expect the second shipment in every day. We can ship by return freight or express, however, yet, from our first lot. Aug. 13, 1887.

We have more bees than we want to put into winter quarters and we propose offering them at exceedingly low prices to dispose of them. A great number of our colonies are in the new combination hives, and we are prepared to sell good full colonies for delivery at the present time at \$6.00 per colony, in lots of 5, \$5.75, in lots of 10, \$5.50. There will be in each hive seven frames (the hive full) of brood and bees and whatever honey will be necessary for the trip and some over. In the regular Jones hive with six and seven frames of brood and bees (balance of 12 empty combs) at the same price per colony. F. O. B. cars at Beeton station, terms, cash with order. We are also prepared to sell a limited number of colonies to good marks on time with satisfactory security. We have too great a pressure in our supply business to permit of our extending our own aparies, and rather than let that portion of our business get behind we prefer to give it the preference.



We have just received from the manufacturers a large lot of cartons for holding the 4x4 section, something similar to the engraving. Our catalogue price at the present time is \$14 per thousand, but we have purchased these at a figure that will enable us to make them \$9 per thousand. \$1 per hundred and 13 cents per ten. When the comb honey labels A. and B. are used on them they make a handsome package for comb honey. The illustration shows you label A. None of them have tape handles, and we make the price \$1 per thousand less than if they had. A 3 cent stamp will secure you a sample by return mail.

Convention Notices.

- HALDIMAND BEE-KEEPERS' ASSOCIATION.— Will meet next at South Cayuga, on Saturday, August 27th, 1887.
- E. C. CAMBELL, Sec., Cayuga, Ont.
- LAMETON BEE-KEEPERS' ASSOCIATION.—At Petrolea, Thursday, Sept. 1st, '87. All are invited.
- J. R. KITCHEN, Sec., Alvinston, Ont.
- NORFOLK BEE-KEEPERS' ASSOCIATION.—At Simcoe, Saturday, Sept. 3rd. C. W. CULVER, Sec.-Treas., Simcoe.
- NORTH AMERICAN BEE-KEEPERS' ASSOCIATION.—At Chicago, Ill., Nov. 16th to 18th, 1887.
- W. Z. HUTCHINSON, Sec., Rogersville, Mich.
- MICHIGAN STATE BEE-KEEPERS' ASSOCIATION.—At East Saginaw, December 7th to 9th, 1887.
- H. D. CUTTING, Sec., Clinton, Mich.

CANADIANS

Want to supply their wants at home as much as possible, but heretofore they have not been able to do so, at least for bees by the pound, frames of brood, and nuclei. We have decided to furnish them at the prices as found in the following table :

BEES BY THE POUND.

	May	June	July	Aug st	Sept.
Bees, per 1/2 pound	1.75	1.50	1.00	1.00	.90
" " pound	3.00	2.50	1.85	1.75	1.70
Frame of Brood	1.75	1.50	1.00	1.00	.90
2-frame nucleus..	4.00	3.50	3.00	2.75	2.50
3 " " "	6.00	5.50	4.75	4.50	4.50

Frames of brood cannot be sent alone.

Queens are not included in above prices. Choose the kind you want and add enough to price found here to cover cost of queen.

Two framè nucleus consists of 1/2 pound bees, two frames partly filled with brood and honey, and a nucleus hive. If wanted in either "Jones" or "Combination" hive, add price made up, and deduct 40c. for nucleus hive.

Three frame nucleus, same as two-frame, with the addition of ano-her half pound of bees and another frame of brood, etc.

All prices here quoted are for frames that will fit the "Jones" or "Combination" hive.. You may have whichever style you desire. Be sure to specify when ordering.

The above must go by express.

QUEENS.

	Honeybees	Untested	Tested	Selected	Virgins
May	2 00		2 50	3 00	
June	1 50	1 00	2 00	3 00	0 60
July	1 00	90	2 00	2 50	50
August	1 00	1 00	2 00	2 50	50
September	1 50	1 50	2 50	2 75	
October	2 00		2 50	3 00	

FULL COLONIES.

	Italian	Holy Land Crosses	Carmolitan Crosses	Hybrids
May	\$9.00	\$10.00	\$11.00	\$8.50
June	8.00	9.00	10.00	7.50
July	7.50	8.00	9.00	7.00
August	6.50	8.00	9.00	6 50
September	6.50	7.00	8.00	6 00
October	7.00	8.00	9.00	6 50
November	8.00	8.00	9.00	8 00

The above prices are for up to four colonies ; five colonies up to nine, take off 3 per cent.; ten colonies and over, 5 per cent. Colonies as above will each have six to eight frames of brood, bees and honey, and good laying queen.

The D. A. JONES Co., Ltd., Beeton.

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In visiting the Dominion and Industrial Fair at Toronto and Western at London, dont leave without seeing my new invention **The Chalmers Three-sided Hive.** Will be there and with pleasure will show and explain it to you. Very truly yours,
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Comb Foundation for sale, to suit any size frame or section. Wax worked on shares or for cash. All freight to Campbellville station C.P.R. If by mail to

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Nassagawaya P.O., Ont.
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- One Colony Bees.....\$7 00
- Five Colonies.....30 00
- Ten Colonies.....50 00
- 1 untested Queen.....1 00
- 3 " Queens.....2 00
- 1 " Queen reared by natural swarming.....1 50
- 3 Ditto.....3 00
- 1 tested Queen.....3 00
- 3 " Queens.....4 00
- 1 " Queen by natural swarming.....3 00
- 3 Ditto.....6 00
- Tested Queens, 1886 rearing, each.....4 00
- Extra Selected, 2 years old each.....10 00

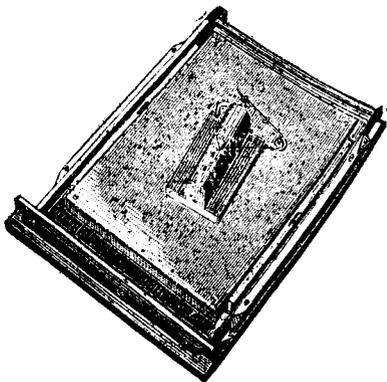


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The "Mitchell" Frame Nailer is light, handy and cheap—anyone who has a few hundred frames to nail will find it advantageous to have one of them.



- For Jones' Frame S. W. Hive.....\$1 25
- " " " Combination Hive.....1 25
- " Langstroth Frame.....1 50

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It never fails to bring results. Samples sent on application. Prices, printed with your name and address: 100, 250, \$1.25; 500, \$2.00; 1,000, \$3.25.

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ESTABLISHED 1855.

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 - Per 100..... 42 00
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THE D. A. JONES Co., Ltd., Beeton.

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Untested Italian Queens, 75 cents each, five for \$3.00, 12 for \$6.50. Tested, single Queen \$1.10, 5 or more \$1.00 each. Bees by the lb.: one pound 75 cents; 5 lbs. \$3.00; 12 lbs. \$6.50; Never had Foul Brood here. I expect to be able to fill all orders promptly by return mail.

I. R. GOOD,
 Nappanee, Elkhart Co., Ind.

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QUEENS CHEAPER THAN EVER!

My Queens are all bred from selected Imported and home-bred mothers, and are as good as the best. Give me a trial order.

Tested Queens \$1.00 each. Untested, 75 cts. each; 5 for \$3.00; 12 for \$6.50. Bees by the pound, same price as untested Queens.

Never had Foul Brood here.

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Perfection Cold Blast Smokers, Square Glass Honey Jars, etc. Send ten cents for "Practical Hints to Bee-Keepers." For circulars apply

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 - 2½ in. Iron Barrell " 75 "
 - 3 " " " " \$1 00
- By mail 25c, 30c. and 36c. extra.
 Untested Italian Queens..... \$1 00
 Half-Dozen " " 5 00

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We have a splendid line in steel squares which we can furnish you at \$1.35. They are well finished and are usually sold in hardware stores at \$1.75.

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A splendid line in rules we offer at, each, 18c. Then we have a nice box-wood rule at, each 25c.

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Just at the present we have but one line in these—26 inch long—A. & S. Perry's make—usually sold at 75 cents we offer them for 55c.

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Iron block planes, just the thing for dressing off hives, each, 75c.

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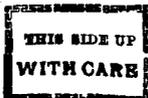
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