

# THE CANADIAN BEE JOURNAL

Vol. 21, No. 1.

January, 1913

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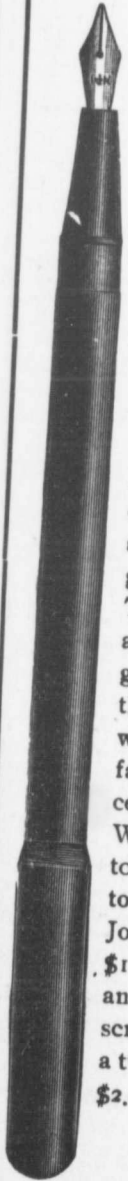
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BRANTFORD, CANADA

**The  
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Devoted to the Interests of Bee-keepers

JAS. J. HURLEY, Editor

Published monthly by

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Brantford, Ont.

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Vol. 21, No. 1.

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# The Canadian Bee Journal

PUBLISHED MONTHLY

JAS. J. HURLEY, EDITOR, BRANTFORD, ONTARIO, CANADA

Vol. 21, No. 1.

JANUARY, 1913

Whole No. 575

## "BEE-KEEPING IN CANADA"

BY FRANK ERIC MILLEN.

In your December issue you published an article by Mr. R. F. Holtermann, which should, in the interests of bee-keepers generally and college-trained men in particular, receive some corrections.

The writer states that he has no desire to, and will not, be drawn into controversy, yet, Mr. Editor, he proceeds to write matter that is certainly far from actual facts.

"Why is it that so many have gone into bee-keeping and made a failure of the business? When we look over sections of country where *years ago* dozens of men kept bees, we often find none or very few in the business now." The next paragraph gives us the necessary answer:

"Bee-keeping is a business requiring *skill, intelligence and application*," and where, Mr. Editor, can we get these better than from a good college training, combined with practical work? A college training teaches a man to think for himself, it awakens his *intelligence* and gives him added *skill*. No one would be bold enough to say that successful and extensive bee-keepers are made at schools and colleges alone, but the majority of readers must admit that, given the practical work, and then the theoretical added, any man should make a stronger and better-balanced bee-keeper.

Why the writer mentions the case of the address on "Swarm Prevention," I cannot see, unless the speaker was a college man, but as "other good bee-

keepers advocate this," surely Mr. Holtermann allows a man to hold his opinion when that opinion may not quite agree with his.

"It takes a great many years of experience to size up the situation in the honey-flow or during the active season with bees." Quite right, and the writer might have added, "and experience is a hard taskmaster." So why not get the result of much experience in a short time by attending college? Let me give you a little experience taken from the 1912 short course in Apiculture at the O.A.C. A bee-keeper, Mr. X, attended this course. He learned that European foul brood was nearing his yard. During his two weeks stay here he also learned that Italianizing would probably help him a great deal. He purchased about 100 queens and requeened the whole yard last summer. From then on he had orders from neighbors for colonies at \$10 each, and he sold until he refused orders for more. There, Mr. Editor, is just one case where only two weeks' course at college put that bee-keeper on the right track.

To quote Mr. Holtermann, "Bee-keeping is not a business for a farmer to have to look after with one hundred or more acres of land." Certainly not. The man to do this is the specialist, the man whose interest is aroused sufficiently to specialize, and he will only be an up-to-date, well-read man.

On the foul brood question the writer again shows ignorance of the facts, and by writing as he does is liable to give a wrong impression. "From near Trenton it has swept into the Ottawa Valley." Now if the writer had only

read carefully some of the literature on foul brood, European especially, he would have been aware of the fact that European foul brood does not skip from one place to another; it invariably follows a direct course, gradually spreading all the time. Between Trenton and the Ottawa Valley there is a large tract of country free from European foul brood, so that these two outbreaks are entirely separate and in no way connected.

Most people with the knowledge of what the provincial authorities are doing must admit that they are doing good work. Truly, if only all the bee-keepers would take heed of the many warnings sent out, the work would be greater. I would refer Mr. Holtermann to our neighbors in the States. They have much more money and many men, yet they have foul brood. Foul brood is here to stay for a while, but the up-to-date bee-keeper will fight the disease and emerge victor, while the slothful bee-keeper will die out. It is a case of the survival of the fittest.

Finally, in summing up, I would like to recall that old proverb for the writer's edification, "Consistency, thou art a jewel."

Guelph, Ont.

### CANDY FEEDING

BY J. H. BURNS.

I see some are trying candy for winter feed. I have tried the hard candy (home-made), but the bees seemed to want to cluster on the combs, coming up to feed and going down again. I thought this tended to wear them out, as they did not come through very well. However, these colonies were a little weak and none too well protected for the severe winter. But don't bees rather prefer to cluster on or below the frames rather than on them?

R.R. 8, St. Marys.

### THE NYASA BEE

BY L. W. J. DEUSS. FORT JOHNSON, NYASALAND. IN BRITISH BEE JOURNAL.

(Continued from last month)

Europeans who keep bees here number, I understand, seven or eight, a large proportion in a population of 500. Some are rather casual in the way they keep them, others use proper frame-hives. As there are not two together in one place, little would be gained by having standard sizes, as long as those who use frames at all, use the same frame all round.

My hives are an evolution of those much used in Algiers; they can be made by a native carpenter very quickly and cheaply, and seem to suit the bees admirably.

The two largest boards of a paraffin case that has been dried thoroughly in the sun to remove the smell, are taken off. Two laths of 2 inches and four of ½ inch are cut from these. The 2-inch laths are nailed along the top of the longest sides, so that they protrude above by 1 inch, the ½-inch laths are nailed along the remaining sides of the same boards of the case. Then the remainder of the removed boards, or as much as is required to be level with the inner wall above, and go an inch below it. Thus we have two walls with an air space of the thickness of one wall between, or a total thickness of 1½ inches.

The short sides of the case remain as they are, being thick enough anyhow. The floor-board and roof are made to fit. The body-box takes thirteen frames, running parallel with the short side. The entrance may now be made on one of the short sides, or on one of the long sides, just as suits the bee-keeper best. The floor-board rests on three stout nails; all legs must be put into tins of castor oil mixed with a little paraffin to keep ants off the hive. Carbolic acid is expensive, and will dry up, and if water is used the little pests make

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The frames an extractor the hive at the only 8½ inches an inch between board. This farther frames gives ventilated feared in this the bees have frames, but the layer of boards

The top bar is has near either sides, broad-headed 3-16 inch, thus for the colony, to let the bees keep the queen the necessity an excluder.

The roof has to protect the hive from trace from rain calico, and then tiled white to reflect as possible, except and the edges of green. My friend gives a great orna

The broad tops of bees practically a the natural thing there is less quilt through, as they do not seem to appear of the quilts, other attempt to make propolis.

The quilts I use cotton-cloth of any tically nothing; pieces of native blank for the purpose. The same frames as the obvious design.

The whole hive, inc of paint, carpenter's does not cost over 10

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(last month)

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The frames are made to suit the box, an extractor (Cowan geared) and the hive at the same time. They are only 8 1/2 inches deep, thus leaving quite an inch between them and the floor-board. This facilitates access to the farther frames for the bees, and also gives ventilation; dampness need not be feared in this dry climate. Hitherto, the bees have never built under the frames, but should they do so, another layer of boards will prevent it.

The top bar is 1 1/4 inches broad, and has near either end, but at opposite sides, broad-headed tacks protruding 3-16 inch, thus making a cover of wood for the colony, with just enough space to let the bees go into the super and keep the queen down, doing away with the necessity and inconvenience of an excluder.

The roof has very broad eaves to protect the hive from the sun, and the entrance from rain. It is covered with calico, and then the whole hive is painted white to reflect as much of the heat as possible, except the alighting-board and the edges of the box, which are green. My friends all consider the hives a great ornament to my place.

The broad tops of the frames give the bees practically a wood cover, which is the natural thing for them, and also there is less quilt to propolise or bite through, as they sometimes do. They do not seem to appreciate the porosity of the quilts, otherwise they would not attempt to make them air-tight with propolis.

The quilts I use are made of waste cotton-cloth of any kind, and cost practically nothing; preferably sample pieces of native blankets sewn together for the purpose. The super takes the same frames as the body-box, and is of an obvious design.

The whole hive, including three coats of paint, carpenter's wages, and supers, does not cost over 10s., and much less

when the same native carpenter makes a number of them instead of one.

In Nyasaland the bees work practically the whole year round. The vegetation and the life of the bees is, of course, dependent on the seasons, which are somewhat erratic in their dates of beginning and ending, and are by no means of equal length. It is usual to distinguish only the rainy season and the dry season, but for our purpose we had better distinguish four:

1. The rainy season, beginning between late February and early January, and ending in April or May.
2. The cold season follows the former, and lasts till July or August.
3. The warm season follows the former and ends in October.
4. The hot season follows the former, and lasts to the beginning of the rainy season.

#### BRIEF REPORT OF THE O.B.K.A. CONVENTION

The Ontario Bee-keepers' Association held its thirty-third annual convention in its old quarters in Toronto on Nov. 13th to 15th. That a large attendance was expected was evinced by the early removal from the hall to adjacent ante-rooms of several desks, to make room for more chairs. The attendance is increasing every year.

There was to be seen a number of faces of those who have attended these meetings since the inception of the society, though the number grows annually less. This year we miss a once familiar face, that of Mr. F. J. Switzer, and as we realize that it is to be for aye, we are glad to remember how pleasant his fellowship with us had always been.

There are to be seen, however, many young men eager to learn of the ways and wiles of the honey-bee and of the profits that might accrue to them through a closer acquaintance with her.

The number of ladies present was even greater than last year, and by enquiry we found that many of them were deeply interested in the business. The number in attendance from across the line has also increased, some appearing on the program, and others to tell us "that they come to learn of us and our ways" of treating the little insect.

The President's opening address was not wholly optimistic, as he recounted the loss of sixty-five colonies in one of his own yards by floods, and told of other bee-keepers' losses from disease and from the extremely low temperature of last winter. The cold wet weather in the fall necessitated very heavy feeding of sugar, with attendant expense and extra labor, but he gave a cheerful finish to his address by alluding to the luxuriant growth of clover that this season's rains have induced, that would point to a good clover-flow for next year.

The foul brood question still holds the minds of bee-keepers. A bee-keeper of large experience, and one who up to this season was a strong advocate of the black bee, in the past season lost a whole yard by European foul brood. He is going to Italianize his other yards.

The automobile is growing in favor with those who run out-yards. Mr. H. G. Sibbald has used one this year with much advantage in going from one apiary to another. He claims that it is a money-saver, a money-maker, and worth its price for the fun you have in running it. Mr. Farr, of Low Banks, uses a motor truck in moving extracting and other appliances from yard to yard, instead of having these appliances at each yard.

Mr. Dadant read an address by Mr. Tyrell, of Detroit, Mich., which showed that the financial side of the honey business depended upon the bee-keeper himself as a pushing salesman.

Mr. Dunn, of Ridgeway, dealt with the subject of preparing bees for wintering out-of-doors, and Mr. Harkness discussed the winter and spring management of bees wintered in cellar.

Mr. Clark, of Cainsville, gave a very interesting address on combining bees, poultry and fruit. We could not help thinking that if he ever gets bee-keeping down to such a science, both in manufacture and sales, as he has poultry and apples, the Arabian Nights stories will be tame compared to the story he will then have to tell.

The address of A. D. McIntosh, B.S.A., Sterling, showed that a district representative's office can be of great service to the bee-keeper in his locality by employing a bee-keeper to do part of the agricultural work of the district.

Mr. F. W. L. Sladen, Assistant in Apiculture, Experimental Farm, Ottawa, gave an address on bee-breeding.

We are wondering yet why members hesitated to give a positive answer when the question drawer asked, "Where is the best place to buy Italian queens?"

We also wondered why there was not a single buzz from the bee-keepers who clustered near the top-bars at Convocation Hall, when every other society on the program had a spouting representative.

There was a very creditable showing of bee products most tastefully arranged at the Horticultural Exhibition this year. The Ontario exhibit was under the large dome in the Horticultural Building at Exhibition Park, and Middlesex County's exhibit was in close proximity to it. Middlesex County supplied a large part of the comb honey of both exhibits as well as the whole exhibit of Middlesex County.

Kindly address all communications to THE CANADIAN BEE JOURNAL, Brantford. Serious difficulties have arisen recently through loss of letters. We are investigating. If you have had no acknowledgment, kindly write us again.

January, 1913.

## THE WIL NORTH

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## THE WILD HONEY OF THE NORTHERN TRANSVAAL

Some of This is Produced by the  
"Moka" Bee, a Species of *Trigona*.

BY F. W. L. SLADEN.

An extremely interesting article, by Mr. E. N. Marais, on the bees and honey found in the Northern Transvaal, appeared in the June issue of the *Agricultural Journal of the Union of South Africa* (pages 790-795).

The native honey-bee produces two kinds of honey, one golden yellow, the other pure white. The white honey solidifies to the consistency of vaseline almost as soon as it is expressed from the comb, and it is known among the Boers as "sheeptail fat honey." It is collected and kept in bags of dinker or steenbok skin, removed from the animal without a belly incision, and similar in all points to the wine-skins of Spain and Portugal. The "sheeptail fat honey" has a flavor and fragrance peculiarly its own, and it improves through being kept in the bags for several years. To find the bees and their honey the bee-hunters depend absolutely on the guidance of the honey-bird. The bees are generally in hollow trees, occasionally in ant-bear holes or hollow ant-hills. Those located in the latter places are often robbed at night by the ratel.

Still more interesting is the account given of the "Moka" bee and its honey. Here at last is a bee that is not *Apis* at all, producing honey as a commercial article. It belongs to the tropical genus *Trigona*, the so-called stingless or mosquito bees. They are smaller than *Apis mellifica* and cannot sting. Various species of mosquito bees are found in Central and South America and also in India and Australia, but the nests are usually small and contain comparatively little honey, so that it is hardly worth while hunting

for them, though the natives of Ceylon, who eat the brood as well as the honey, do so.

The Moka bee of the Northern Transvaal is, however, an exception. One colony of these bees produced four pints of pure honey, and Mr. Marais says he has known others from which two gallons were obtained, though so large a quantity was rare and an average of two or three bottlefuls from each nest usually satisfies the hunter. In flavor the Moka honey differs widely from common honey, and Mr. Marais thinks there is nobody who will not give it the preference, for in addition to the ordinary taste and fragrance of honey, it has "a slight and very pleasant acid flavor, which completely does away with the cloying sweetness of common honeys."

There are two varieties—evidently distinct species—of Moka bees, one extremely small, the other considerably larger.

The larger Moka bee, which is closely allied to, if not identical with, *Trigona clypeata Friese*, builds only in the ground, selecting the hardest soil to be found, and sinking in it a vertical shaft of about the diameter of a lead pencil to a depth of from two to five feet. At the bottom of this shaft a hollow is excavated and here the honey is stored.

"The honey is stored quite apart from the comb in little wax bags about the size of a large thimble. These are cemented together with wax until a cluster has been formed about the size of an orange, when they are again covered with an outer skin of wax. The shape of the entire bag is that of a Roman wine-amphora without the handles. As soon as one such bag has been finished, another is commenced, until there are a series of them, with the necks all converging towards the shaft and the bottoms widening out with the hollows. Between these bags the comb is made similar to that of the

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common bee, with this difference, that the cells are much smaller and contain no honey. At the exit of the shaft a tiny chimney of propolis is made to exclude dust, pebbles and storm water from the hive."

The honey-bird never leads to the nest of the Moka bee. When the bees are at work they form a whirling cloud above their tiny chimney. The honey-hunter lies flat on the ground, facing the sunset. "Against the illumined west he detects the little cloud, and then the fate of the hive is sealed. A long twig or tambukie grass is first of all thrust down the shaft into the honey so that the direction can be maintained after the shaft has been lost in the loosened soil."

The smaller variety of Moka bee is known among the Afrikanders as *os-bije* (ox-bees). It builds in trees of the hardest and toughest wood. On a hot summer day these tiny bees will settle in swarms on one's hand and face, evidently in search of moisture, and this is a sure indication of the vicinity of a hive. The honey resembles in all respects that of the larger Moka bee.

Both kinds of Moka bees are easily domesticated. The comb can be removed in its entirety with the bees and carefully placed in a previously prepared box with a shaft and chimney ready made. The box can then be placed under a verandah or even inside a room near a window. Here the little inhabitants will continue their incessant labor, showing no objection to the presence of man, and nothing will induce them to desert their hive.

Ottawa.

Mr. Wm. White severed his connection with THE CANADIAN BEE JOURNAL on Jan. 8. For some time past he has been endeavoring to secure the support of the Executive of the Ontario Beekeepers' Association in the publication of a new bee journal. He has been trying to organize a joint stock company.

## METHODS OF SELLING HONEY

A PAPER READ BY MR. E. B. TYRELL, DETROIT, MICH., AT THE RECENT CONVENTION OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.

"Salesmen are born, but not made," is an old saying that has been thrown at us from time immemorial; but it is an old saw needing a lot of filing, for "salesmen are born and made" if they will recognize and use the fundamental laws underlying salesmanship.

The extent to which salesmanship enters into our lives is little recognized by the majority of us. No matter what our occupation, we will find by careful analysis that the art of selling plays an important part in our success. The laboring man requires salesmanship in order that he may sell his services to the best advantage. The lawyer must exercise the principles of salesmanship if he gets the best patronage. The banker, to make the biggest success, must observe the finest points of salesmanship, suggesting, persuading, and creating favorable impression, and doing it so nicely that no one suspects he is trying to sell the services of his bank. And so we could go on down the line naming one occupation after another, all dependent on salesmanship, and showing the most successful men are the best salesmen.

### The Influential Factors

Three factors enter into a sale—the salesman, the thing sold, and the customer. No sale can take place without these three factors. To consider two and ignore the third would be to invite failure. So we must analyze each in turn.

*The Salesman.*—A successful salesman must be able to inspire confidence, create desire, and command decision. He is without doubt the most important factor of the three, and yet in many establishments he is evidently considered the least. Large department stores pay out thousands of dollars for adver-

tising, stock goods, and selling over clerks. How into a store up to purchase the clerk handles money, and don't want anything but say "Brown?" If this in the future how may suggest to you anything but paid for and Then, again, no one who will and then tactful to a half-dozen, "just received," more than you good one.

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tising, stock their stores with excellent goods, and then many of them turn the selling over to the most incompetent of clerks. How many times have you gone into a store with your mind all made up to purchase a certain article, have the clerk hand it out to you, take your money, and then suggest that "You don't want anything else, do you?" instead of saying, "What next, Mr. Brown?" If you have never noticed this in the past, just observe in the future how many "order-takers" will suggest to you that you don't want anything but the article you have just paid for and what you came in for. Then, again, notice the occasional live one who will fill the order you gave and then tactfully call your attention to a half-dozen other articles they have "just received," and if you don't buy more than you came in for you are a good one.

Many would-be salesmen so conduct themselves that your attention is centred on them instead of on the article to be sold. This is done either by dress or manner. A plain simple dress is the only thing allowable. An earnest, enthusiastic manner gets the attention where you want it—on the article to be sold. Confidence is a prime requisite to selling, and we don't generally have the most confidence in the salesman who dresses to extremes, either too poor or too good, or who is continually boasting of what he has accomplished.

*The Thing Sold.*—The article itself must have merit. It must be worth the price asked. It must be able to command the respect of both the customer and the salesman. No salesman can continue to successfully sell an article he does not have confidence in. He must be able to become enthusiastic over it. He must be willing to defend it at all times. This defence must be sincere, for insincerity will always tell in an attempted sale. The salesman may delude himself into thinking he can

sell an article he does not have confidence in, but, believe me, his success will be short-lived.

*The Customer.*—You would hardly expect to sell a set of blacksmith's tools to a lawyer. You would hardly go to a saloon to sell Bibles. And yet salesmen sometimes make attempted sales to people who have no more use for the article sold than a lawyer would have for blacksmith tools or a saloon would have for Bibles. The customer must be one who would have use for the article to be sold. Possibly he doesn't know that he needs it, and it is then the salesman's business to show him.

The sale itself takes place in the mind. If a man comes to you and asks for a given article and you supply that article and take his money, don't delude yourself into thinking you have made a sale. You haven't. You simply filled his order. He made the sale himself, and it was made before he reached you. There is a big difference between taking orders and making sales. You must actually influence the other man's mind and persuade him to purchase at a profit to you that which you have for sale if you are to consider yourself a salesman.

For every sale that is made the customer's mind passes through four stages or changes. The four changes take place whether the sale is made in one minute or one year. They are "attention, interest, desire, and resolve to buy." You must first get your customer's attention; this must be prolonged into interest; interest must be intensified to desire; and after that you must get resolve to buy, or action. Many sales fail because this law is not understood. Attention is secured, but the salesman doesn't know how to ripen it into interest. Or possibly he attempts to force the "resolve to buy" before even interest is secured. When he has secured attention he should know that the customer's mind must pass into

that stage called interest. When interest is aroused he has even harder work before him to carry it along to the point where a desire is created. And when the desire is created he must be able to carry the hardest fort of all, and get the "resolve to buy." With these four changes in mind, with this law understood, you should be in a better position to sell your honey than you were before.

#### The Honey Salesman

The first that we would consider, then, is the honey salesman. He may be yourself, your paid representative, or a circular or advertisement. Even a letter sent to sell honey is in that case your salesman. So you must be careful that whatever it is, that it conforms to the first law of selling—that it can command attention. That attention, understand, must be for the honey offered. If you are the salesman, your dress and manner must be cultivated so you will not attract undue attention to yourself. You must be neither over-dressed nor under-dressed. You must be enthusiastic and earnest in your manner, but not loud, noisy or boasting. These same rules must apply to your paid representative. If it is a circular or advertisement, it must be printed on good quality of paper, honestly and reasonably worded, or it will fail of its mission.

Next, considering the thing sold, we must have a good article of honey, one suitable to the taste of the particular class of people we are attempting to sell to. Don't attempt to sell buckwheat honey to those who prefer clover. Give them what they want. Put it in a popular-sized and popular-priced package.

#### The Customer

Owing to the nature of honey, your customer can be found in every walk of life. But you will have better success if you pick out a certain class and aim your selling campaign at that class.

Some people can do better work in selling honey to the business and professional men for personal consumption. Others can sell better to women. Still others have better success in reaching the workingmen. Each of these classes require a little different method of selling, a little different set of arguments presented, than the others, and it will pay you to study them.

For the business or professional man it is not so much a matter of price as of quality. For the woman an argument of economy has its effect, as well as the value of honey to the children. And then you must bear on the fact that your honey is pure, but don't do this unless she raises the question. It is not advisable to raise doubts where there are none. Explain the difference in flavors, and why there is a difference. Tell her honey will keep well if properly cared for, and then tell her how to keep it. A woman is interested in details, while a business man is too busy to hear them. Workingmen need but little argument excepting the one of taste and price. He will pay the price, too, if it is worth it.

To the man who is buying to re-sell you must add an argument of saleability. Not only must you have a good article, but you must have it in such shape that it can be re-sold at a profit. The same package you use for the consumer trade will not apply for the grocery trade. Neither will the same arguments. Each must be studied and its needs supplied. Even where you are selling to the consumer trade exclusively, you will find that different classes need different sales methods to reach them.

What I have said to you so far are hard-and-fast laws of salesmanship. They have been proven to be true in so many cases that we can accept them as facts. What I am going to say to you now, in conclusion, however, is a matter of personal opinion, and, of course, is subject to debate.

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### Some Suggestions

Wherever it is possible I would advise a direct-to-the-consumer trade in honey. Where that is not possible, I would get as near that as you can. For comb honey uniform grading rules are advisable, and if a prediction is in order, I will predict that the time will come when we will have central grading stations, where all the honey of a given locality is sent to the producer, there to be intelligently graded and eased. This, of course, refers to the wholesale trade.

For the consumer trade I would use the 4¼x4¼ slotted section, packed in shipping cases holding 12 pounds. This is about the right amount to sell to an individual for home consumption.

For extracted honey I would recommend the 10-lb. friction top pail, and then I would put ten pounds of honey in it. I must condemn the method of selling extracted honey and including in the weight the tin which contains it. You don't ask your customer if he wants to buy ten pounds of honey and tin, and yet that is really what you are selling him. When he believes that he is buying a certain number of pounds of honey, and then finds that part of it is tin, he is apt to feel that he has been taken advantage of, and that does not leave the proper feeling for future sales. It is all right where you tell him he is getting the pail weighed in, but it is not always told, and he has a right to be dissatisfied if he buys ten pounds of honey and doesn't get it.

### DON'T LET BEES STARVE

#### Heavy Winter Losses Predicted Where Bees Are Not Fed.

Buckwheat honey seems to have been very scarce last fall. Dealers in this product who usually buy and sell from fifty thousand pounds every year are having greater difficulty than usual in getting this winter's supply. As bees in a great many parts of Ontario de-

pend on fall honey for their winter's stores, this would indicate that they will also be running short before spring unless the bee-keepers are careful to see that they are supplied with artificial stores. The Provincial Apiarist, Mr. Morley Pettit, gives the following directions for making feed for wintering bees:

Place twenty pounds of water in a boiler on the stove and bring to a boil, then stir in fifty pounds of best granulated sugar, stirring thoroughly until fully dissolved; bring the syrup nearly to a boil again and stir in three teaspoonfuls of tartaric acid previously dissolved in half a cup of water. This makes a good thick syrup, which will make the very best of winter stores for bees.

A good colony of bees will require thirty or more pounds of this syrup unless they are well supplied with honey. At this late date the only feeder to use for outdoor-wintered bees is the half-gallon fruit jars. Fill the jar, draw over the top a piece of cheesecloth, then screw down the ring holding the cheesecloth tight. The jar of syrup is now placed upside down on the frames of the brood-chamber, so arranged that the bees can come up between the frames and suck the syrup through the cheesecloth. Air pressure will prevent the syrup running out any faster than it is taken by the bees. Five or six of these jars can be placed on one hive at once and warm packing placed around them to prevent the escape of heat from the colony. In a few days the bees will have taken the syrup all down and stored it in the combs, when the jars can be taken off and the packing fixed down on the hives for the winter.

The Ontario Agricultural College, Guelph, is offering a free course of lectures on bee-keeping, lasting two weeks, during January. Persons interested in taking this course should write to the president of that institution asking for a copy of the program.

### WINTERING BEES

#### Methods of a Bee-keeper of Twenty-eight Years' Experience.

AN ADDRESS DELIVERED BY J. F. DUNN, RIDGEWAY, ONT., AT THE CONVENTION OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.

I pack my bees before feeding them for winter. Any that do not need feeding are finished right up, and filled clear to the cover of the packing case. Those that need feeding are packed up to the level of the top of the honey-board. I pack them early and feed them late. This year I finished feeding October 18th. On November 10th bees were gathering a little honey and great loads of pollen. Our season is longer than in higher altitudes or localities further north.

The feed is so thick and the hives so warm that the bees have very little work, and it is soon capped over. Bees are in very much better shape to stand the rigors of our northern winters, as their vitality is not weakened with the strain to which they are subjected when fed thinner stores in cold hives.

Before placing the hives in packing cases, I run a piece of an old buggy-spring in the entrance and pry the front of the hive off the bottom-board and shove in between the bottom edge of the hive and the bottom-board the summer ventilation wedges, three-quarters of an inch and one-eighth space under front of bottom-bars of the brood-frame, insuring plenty of air, and preventing clogging up entrance with dead bees. I then place a strip one-quarter of an inch thick and two inches wide, in which a notch has been cut three-eighths of an inch high, and as wide as I can get it in a ten-frame hive. I regard this wide entrance as a very great factor in successful wintering. After placing the hives in the outer packing-case, I pour in planer shavings, packing them tightly with the edge of

a board, until even with the tops of the honey-boards.

I try to get my supers off early enough so the bees can seal all honey-boards tightly on hives that do not need feeding.

After the packing is in position at side I lay a piece of building paper, the thin, black-glazed, waterproof sort, that costs \$1.40 per roll of 300 square feet, over the top of each hive, and tuck in down the outsides of the hives and about three inches below the honey-board, pressing the packing tightly against the turned-down edges of this waterproof paper. On top of this I lay old newspapers and magazines, or any other sort of papers that are handy, to the depth of four inches up, according to the supply at hand. After each layer of old magazines, place a large paper over all to make as many dead-air spaces as possible, tucking a large piece of paper down over ends of each layer, and drawing the packing tightly against ends of paper packing. I then pour in planer shavings to fill the case. The planer shavings must be very dry. White pine shavings I prefer to all others. Forest leaves suit me very well, but as the object is to have as many dead-air spaces as possible, shavings are preferred. When properly pressed down each shaving lying on another makes a dead-air space or nearly so.

Wheat and oat chaff are next in line of preferment. Sawdust and clover shaff are taboo. Two years' experience with clover chaff, in an out-apiary, alongside of other packing, settled this matter with me. For the past six years we have packed nearly all our bees as described.

I have been engaged in bee-keeping twenty-eight years, about half of that time as a specialist. Experiments extending over several years have convinced me that absorbents over the cluster are not needed. All animals, even to the highest man, need water to sustain life. We are located on the

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Niagara frontier, close to the south shore of Lake Erie, only 265 feet above sea-level, and almost on the line between the forty-second and forty-third degree of latitude—to be exact, 42.33.17. If there is any place in Canada where during the winter months an excess of humidity exists, it is between the two great lakes on the Niagara frontier.

While it is seldom that the thermometer reaches zero, we have a good deal of cold, snappy weather. A change of twenty-four degrees in as many hours is very common, and forty degrees of change in the same time causes no great surprise.

Bees seldom get a flight from late fall until February and often not until March or April; just the requisite conditions to make bees uneasy, and if absorbents were necessary in localities further north, one would think they should be indispensable here. We have often wondered if in higher altitudes or further north they were needed.

The winter of 1910-11 was very severe, the coldest for many years. Three-fourths of our apiary was packed as above described, and came through with scarcely any loss. The balance were packed with planer shavings and some with forest leaves; part of them with honey-board removed and Hill device over the brood-frames, and on top of that packing to the depth of 12 inches. A few were packed over sealed covers. Nearly all our loss was in hives so prepared, although they wintered pretty well. Several times during the winter we removed the covers of these packing cases and found the shavings quite warm over strong colonies, from three to six inches above the bees, according to the state of the weather. Why compel the bees to warm and keep warm all those shavings when by lots of paper packing we may confine the heat to the inside of the hive, right where it should be? Any little moisture that forms, and it will be very little, the bees are only too glad to get.

Last winter was the most severe in Canada in 100 years. The official thermometer in the city of Buffalo, nine miles distant from our apiary, showed 18 degrees below zero, the coldest since the establishing of the Weather Bureau forty-two years ago, and we had steady cold weather throughout the entire winter—just the kind of a winter to find out what we wished to learn. Many times I listened at every entrance over my papered hives, and not even the gentle hum we all know so well could be heard in many of them. The first warm day out they boiled, and by fruit bloom a large force of young bees were flying. Three queenless colonies succumbed, and one packed with leaves only was sporting in the elysian fields. But at the advent of clover bloom the rest were "right there with the bells on"; then followed two weeks of the hottest weather I ever experienced. The clover dried up all too soon, but not before our rousing colonies had piled up an average of one hundred pounds each, stacked one super over another, and scarcely any of it capped—something I never saw before. One nucleus covering in the fall scarcely three frames wintered perfectly and gathered four supers of clover honey.

#### INSURANCE OF BEES IN SWITZERLAND

The twenty-fifth report of the Federal Office of Supervision of Private Insurance Companies in Switzerland lately published contains particulars showing the progress in recent years of all forms of insurance in that country. The fact that the sums paid by insurance offices subject to federal supervision during the twenty-five years from 1886 to 1910 amounted to about 727 millions of francs sufficiently shows the important place taken by insurance in Swiss economy. The report naturally refers to the various branches of agricultural insurance, and the chief data as to the

organization and development of these branches are enumerated in an article in No. 10 of the Bulletin of Economic and Social Intelligence published by the International Institute of Agriculture in Rome. Passing over some interesting statistics as to the insurance of cattle and crops, we are told that in Switzerland there is a third branch of agricultural insurance—that of bees against foul brood. This insurance is carried out by two Swiss apicultural societies, its aim being the indemnification of its members against losses caused by this disease. It gives them the right to gratuitous treatment of their hives, either affected or suspected, to needful help for disinfection, and thirdly to an indemnity of 75% on the value of the destroyed hives. In 1911, in German Switzerland alone, of 25,000 bee-keepers, 7,532 were insured, and of about 180,000 hives, 105,170 were insured. By an order of the Federal Council of December 3rd, 1909, foul brood was included in the law dealing with cattle diseases. The Federation also attends to the care of affected hives and of insurance. In the three cantons of Fribourg, Vaud and Neuchâtel insurance of bees is compulsory.

In the above quoted article the principal data concerning foul brood insurance from 1908 to 1911 are given, and will serve as a guide to progressive apiculturists in other countries who may wish to follow in the steps of those of Switzerland.

#### EXPERIMENTAL UNION ANNUAL MEETING

The Ontario Agricultural and Experimental Union will hold its annual meeting at the Ontario Agricultural College, Guelph, on the 7th and 8th of January next.

The co-operative experimental work of the Union has been more extensive during the past year than at any previous time. Six different committees have

conducted active work in 1912. In agriculture alone experiments were conducted on 5,027 farms in Ontario. The summary results of these experiments will be presented and discussed at the annual meeting.

Besides the presentation of the results of experiments, there will be addresses and discussions on the following special subjects: "Possibilities of Intensive Farming in Ontario," "Division of Labor on the Farm," "The Operation and Value of the Seed Control Act of 1911," "Conveniences in the Home and on the Farm," "Ontario's Part in Federal Agricultural Cooperation," etc.

These meetings are open to any one interested in agriculture. Cheap rates have been arranged for on the certificate plan. For fuller particulars apply to the Secretary, C. A. Zavitz, Agricultural College, Guelph, Ontario.

#### "HARMLESS BEES"

Anent the "stingless bee," the *Irish Bee Journal* says:

Some interest has been aroused by the publication, in the *Daily Sketch* of October 2nd, of a reference to a strain of harmless bees which, it was said, Mr. Burrows, of Loughton, had obtained after two years' experimenting. The bees were said to be "a mixture of the Cyprian drone and the Italian queen," so gentle that a child could handle them with perfect safety, and such diligent workers that, in the past most unfavorable season, 212 pounds of honey had been taken from one hive. The *Times*, the *Pall Mall Gazette*, and other leading newspapers, followed with reports of this new achievement; the bees were described as less liable to disease than English bees; not stingless, indeed, but having innocuous stings.

Naturally enough, a large number of our correspondents have written to us for information. They think that

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bees with such characteristics should go far to revolutionize the industry of bee-keeping in this world and the next. Two hundred and twelve pounds of honey! Innocuous stings! New powers of resistance to disease! The Waterford vendors at 5d. per lb. have fortunes before them. Bee-keeping may become a nursery game. The poor will need but to raise more children, set them to hive management, and tour the world in motor cars. As for "I.W.," "F.B.," and the other ills that bees are heirs to, these need trouble us and them no longer: the new bees will laugh at *Nosema*; only the vendors of "cures" will suffer.

By the way, no one, so far, has claimed to have heard bees laugh. We all have heard them cry, and many of us know what their rage is like. Can it be that they, poor things, are deprived of the pleasure of healthy laughter, with so many provocations to merriment as mankind affords them? We hope not.

Some of our correspondents have had their doubts increased by the report that this new strain of "harmless bees" has resulted from "a mixture of the Cyprian drone and the Italian queen." Hitherto it has been supposed that temperament has come chiefly from the drone; but Cyprians have the reputation of being exceedingly vindictive. However, we never know what wonders selection, environment, or even physical deformity, may accomplish. We have met a celebrated artist who painted with his feet, because he had no hands. It is recorded of a disabled stoat that necessity taught him to catch rabbits by making a noise like a turnip, and of a flock of geese, reared in a kennel, that they barked like a dog, and every back feather lifted at sight of a cat. Let us not be too skeptical, but keep our minds open to every form of useful knowledge. Stranger things have happened than the evolution of "harmless bees."

Mr. Burrows tells us that he has never before come in contact with a strain so quiet as this. The difficulty is to import perfect Cyprian queens, and it was only in three instances that those imported gave the results required. They are splendid gatherers; more suited for extracted honey, their capping of comb not being quite satisfactory. He has nine stocks, and has averaged eighty pounds of extracted honey, besides having each of the fifteen brood-frames well filled. The stocks have gone into winter quarters exceptionally strong. He thinks that he has solved a very knotty point, and quite by accident, when endeavoring to produce a more prolific gatherer, and this after he had imported a large number of foreign strains sent by his many friends abroad. He has also several stocks of pure Cyprians, but finds them absolutely useless, being very vicious, and just gathering sufficient nectar for their own consumption. He is receiving letters from all parts of the world, and several of the leading firms of bee appliance manufacturers are in touch with him.

Our readers will look with interest for new developments in the coming season.

### "THE HUMBLE BEE—ITS LIFE HISTORY AND HOW TO DOMESTICATE IT"‡

It is no exaggeration to say that Mr. Sladen has done the world a service and crowned all his previous work by the publication of this remarkable volume. Though they be not many whose studies turn in the direction of the humble bee, he who increases knowledge is a benefactor of mankind. Mr. Sladen has not only given us a great deal of information: he has given it plainly, and clothed it so attractively that every

‡"The Humble Bee. Its Life History and How to Domesticate It." By F. W. L. Sladen, F.E.S. Demy 8vo. 283 pp. Illustrated. Macmillan & Co., London, 1912. Cloth gilt, 10s.

lover of nature who meets this delightful monograph will have warm feelings towards the author and will claim him as a friend.

Twenty years ago the boy Sladen produced a stencil-printed treatise on the Humble Bee. Since 1892 he has pursued the study of his subject, surpassing most other observers by his careful investigation of details, by which means he has been able to describe a variety of remarkable incidents in the life-history of the humble bee which had hitherto escaped attention.

The humble bee and the honey bee are the only bees in the temperate zone that produce workers and dwell in communities. Of true humble bees, comprising the genus *Bombus*, there are seventeen different species found in the British Isles, and six species of the genus *Psithyrus*, or parasitic humble bees. The difficulty of separating some of the species—one that even skilled entomologists have long experienced—will now be met by the collection of beautiful color photographs, with descriptions, published in the volume.

The humble bee is no less industrious than the honey bee; she begins work at an earlier age and is earlier out in the morning and later at night. The few ounces of honey which she stores as her maximum is of no account for human consumption, and, in this respect, she falls far short of the honey bee as a friend of man; but as a fertilizing agent she is invaluable, her much-longer tongue enabling her to work upon whole groups of plants from which the honey bee is excluded. The drones are not the idle, pampered males with which we are more familiar in our apiaries; these maintain themselves, setting an example which many of us could wish that our noisy blusters might be trained to follow. The queen displays a higher intelligence and, in some respects, a much greater capacity than the queen honey bee; she is no

mere machine for laying eggs, but worker as well as mother, as a devoted nurse, providing food, warmth, and protection for her brood. When the workers make savage attacks upon male and queen eggs, the queen throws them down and repairs the cells, maintaining watch and counter-attack for several hours until the enemy admits defeat. When one has read of all her patient labor, brave defence, and watchfulness, one is glad to know that she may often "knit up the ravell'd sleeve of care," and drop off to sleep, with her antennae resting on her face, slumbering in her nest, or on some fragrant flower, for the moment forgetful of the cares that have been and are yet to be. A charming frontispiece shows us one of Mr. Sladen's pet queens incubating her brood. It was necessary that she should sit still for about half a minute to have her photograph taken; from which arose many failures during an ordeal lasting two hours. Though she took wing several times, she was as often netted and returned, her dusty coat was carefully cleaned with a camel's hair brush and, at length, sitting upon her brood, quite gay and graceful, as though she knew that she was to be immortalized in the forefront of her master's book, her pretty picture was taken. One likes to hear that this dear, mother bee passes painlessly at last from the scene of her surprising labors.

"The aged queen often spends the evening of her life very pleasantly with her little band of worn-out workers. They sit together on two or three cells on the top of the ruined edifice, and make no attempt to rear any more brood. The exhausting work of bearing done, the queen's body shrinks to its original size, and she becomes quite active and youthful-looking again. This well-earned rest lasts for about a week, and death, when at last it comes, brings with it no discomfort. One night, a little cooler than usual, finding her food supply exhausted, the queen grows torpid, as she has done many a time before in the early part of her career; but on this occasion, her life-work finished, there is no awakening."

January, 1913

The enemy many. Ant wax moth, devour the idle genus *P.* kill the queen workers, ob young instead sisters. these foes th destruction.

The author protecting his enemies, and history. No without realized up a fascination of his boy to him now, an with the public volume, many ment where he of nature will els, jam jars, an of humble bees will be the excitement digging out the them to gardens of the new pets their wants attend little risk of stirring of a sting-poison of the honey bee aid of Sladen's workers bees will be attracted and their intelligence leisure and in common.

#### MY EXPERIENCE TREATMENT FOUL

PAPER READ BY MR  
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The enemies of the humble bee are many. Ants, mice, the caterpillars of a wax moth, and other savage intruders, devour the brood. A humble bee of the idle genus *Psithyrus*, may enter the nest, kill the queen, and make slaves of the workers, obliging them to rear her young instead of their own brothers and sisters. With the coming of any of these foes there is no escape from destruction.

The author took much pleasure in protecting his pets from their natural enemies, and in the study of their life history. No one can read his book without realizing that he has here opened up a fascinating pursuit. The pleasure of his boyhood is no less enjoyable to him now, and we have no doubt that, with the publication of this delightful volume, many will begin to seek enjoyment where he first found it. Lovers of nature will go out with their trowels, jam jars, and pieces of card. Nests of humble bees will be sought for. There will be the excitement and surprises of digging out the nests and transferring them to gardens where the operations of the new pets may be watched and their wants attended to, happily with little risk of stinging, and little dread of a sting-poison less virulent than that of the honey bee or wasp. Or, by the aid of Sladen's wooden covers, humble bees will be attracted to artificial nests, and their intelligent ways be studied at leisure and in comfort.—*Irish Bee Journal*.

#### MY EXPERIENCE WITH THE TREATMENT OF EUROPEAN FOUL BROOD

PAPER READ BY MR. CHARLES STEWART,  
 STATE APIARY INSPECTOR, JOHNSTOWN,  
 N.Y., AT THE CONVENTION OF THE ON-  
 TARIO BEE-KEEPERS' ASSOCIATION.

I had long looked forward to the time when I could meet with the Canadian bee-keepers. I think that there was the most discouraged lot of bee-keepers

that I ever saw in my life when we first took up this work, and when we look back now and remember their troubles, we can see how easily their trouble could have been avoided.

It is necessary to have an inspector, and it is necessary that that inspector, in addition to knowing how to handle bees, must know how to handle men; he must not only be an inspector, but he must be a father to the bee men. When we took up the work in New York State, we found men utterly discouraged, and if you could have seen them you would have pitied them from the bottom of your heart, so that it was necessary not only to encourage these men and women, but even to assist them financially at times. Sometimes men have said to me, "Mr. Stewart, you have the power and the authority, and all that, but what you propose means the ruination of us. You presume that you know more about these things than we do." One man took my advice, and the following year I saw his exhibit at the New York State Fair, and it was a beautiful exhibit, and when he met me afterwards he said, "Mr. Stewart, I will have to thank you." He said that he had refused \$3,500 for his crop the day before. There are many such cases, and these men feel convinced that our system is right.

We easily realize that the spread of disease was brought about by the bees intermingling in the yards. You would find a colony in a yard that was badly diseased, and to a lesser extent in the same area you would find others, which showed plainly enough that the bees intermingled. This was simple, but it was a long time before we found out how the disease would appear three or four miles away. It so happened that we had a meeting of bee-keepers, and one of them said that he would like to know the truth about this matter, and wanted to know if we were going to be able to keep black brood

from his apiary. I said we hoped to, but I was afraid not. He said, "My advice would be, I would double your number and Italianize every colony." These were the very first ones diseased, and they were very badly diseased. We sent an inspector into that section, and about four miles from his yard we found an apiary where all the bees were diseased, and we found this colony of Italians were in every diseased colony. I question whether a honey bee ever comes out from a colony that is diseased that there are no germs that may drop into any convenient colony it finds. It has been suggested that the seeds of disease may be left in the hive, and that is verified by some experiments. It is quite important to remember, and I would like to make it very emphatic, that you ought to Italianize your bees. This gentleman that I mentioned to you whose apiary we saw last year sold his crop for \$500. His idea was to Italianize, but the Italians do not mix so much as the black bees, so that in a mixed yard you may find plenty of Italians among the blacks and not many blacks among the Italians. Of this we may be positive, that the Italians clean up better than any other race we know of. In fact, they are almost too busy perhaps. I have known of colonies where disease existed and before the caretaker found the cause of the trouble the Italians had found it and removed it.

I can take you to apiaries in New York State that have stood all through this disease for fourteen years and have never yet had a colony develop it. This man was not a very good bee-keeper, but he did have one thing, he was a great lover of the beautiful Italians, and he had gathered bees from all over and he certainly did have a vigorous strain of bees. I recollect going there, and he insisted on showing me his sweetheart queen, as he called her, and as he opened the hive four or five of them hit him right in the face. This

yard stood all through the trouble without shaking the colonies, because they were Italians, and I think they discovered only one or two very slightly diseased.

I would like to make that matter of Italianizing emphatic; you cannot afford to neglect it.

It is necessary to procure a strain of Italians that are vigorous. Italians very greatly; but if you have a good strain they will give you a pretty clear idea of what is happening in the yard.

Now we come to the matter of foul brood, and you have no doubt had this experience, that if the bees are small, inferior, like the blacks, the yard will run down very rapidly. If they were hybrids the chances were pretty good for saving a lot of them. If they were Italians, the chances were still better; you can have an apiary of Italians and move them right into the diseased territory. The system that we rely on is shaking and Italianizing. I have watched this thing very carefully; I have had some for ten years, and perhaps longer, and during that time there were only four or five very slightly diseased, and I think you can clean up that disease. With our system of wax-making, you can, if you are very careful to work it out, get wax enough to replace.

If you have not got bees enough, so that you make them stand first, it is a good thing for you if you will get enough so that they constitute your chief interest. Where your treasure is, there will your heart be also, and if you have enough interest and enough money invested in bees, you will find that you will place them first among the necessary things, and you will find in time that it will become a specialty with you. It lends a zest to everything else. It is a vocation, while everything else is an avocation.

This Italianizing and shaking of the bees has been the salvation of the New York State bee-keepers. I wish I could draw a picture for you of how matters

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stood when we began this work and compare it with what they are now. The men were thoroughly discouraged, their living was destroyed, there was no honey coming—that is, no marketable honey, the bees were too weak. In place of that we have finer apiaries than we ever had before, we have better bee-keepers. Any man that was slovenly and did not care enough for his bees to accept the inspector's help dropped out, and the more I see of it the more convinced I am that the inspector should not help some of them at all, if they will not help themselves. We used to keep on using the old worn-out combs; we found the new combs paid better, that the bees did better and were more prosperous than they ever were before. I think the combs do get too old, and they should be renewed frequently. This plan will inevitably effect a great improvement. It is the colonies with old combs that need to be fed and helped.

Another thing that we have got to have in order to get better crops is better bees and better methods. I do not fear disease if you have a strain of bees that will clean it up immediately. In many respects this has been a blessing to the bee-keepers in New York State. If a man is not in trouble it is pretty hard to make him believe that he has got to work, and it certainly has been a blessing in Eastern New York and to some extent also further west in the State. I found in every case where it struck the apiary for the first time that it is much more virulent than it is later on. The reason for that is that you get rid of most of the weak colonies in your yard. They are the first to drop out, and as time goes along they yield more quickly to treatment; you will not have so many re-infections. We advocate disinfecting and we shake them. I have not disinfected a hive for years, although there are people with whom when we say to them "You had

better disinfect this hive pretty thoroughly," it works out good, as it makes him careful, even if he does not do it.

#### EXPERIENCES WITH EUROPEAN FOUL BROOD IN THE OTTAWA VALLEY

BY F. E. MILLEN, O.A.C., GUELPH.

European Foul Brood has made considerable headway in all directions in the Ottawa Valley since a year ago, and is now found in Carleton County in the following townships: Huntley, Nepean, North Gower, Gloucester. In Russell County, Cumberland Township, Prescott County in North Plantagenet, and Renfrew in McNab Township.

In most cases the disease was not suspected by the bee-keeper until his apiary had been inspected and the disease pointed out to him.

Except in rare cases the disease did not seem to do so much damage the first year, but if left untreated, the second year it ruined the colony. I found the worst cases in the yards of the incompetent bee-keeper. The man who tried to understand his bees was in a better position to detect anything wrong, and so often prevented the disease from becoming as bad as it otherwise would. The germs of disease will always thrive much better in surroundings suited to their requirements, and when we go into a yard and see old combs laying about, from which honey has probably been taken by the bees, we can see how easily the disease spreads.

The bacillus of this disease is very small, and of course invisible to the naked eye. It requires any number from twelve to fifteen thousand placed end to end to make one inch in length, and then remembering that one bacillus is enough to start the disease, and that one will multiply many times in twenty-four hours, we can see that great care is necessary in being clean and thorough in our work in the yard.

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Every bee-keeper should spend a little time in reading something of the life and habits of bacteria, and then he would be in a better position to fight these diseases when they made their appearance.

European Foul Brood is costing the bee-keepers thousands of dollars loss every year, and most of this could be prevented by the bee men if they would give their bees more care and find out the cause when they are doing badly.

I recall a striking instance where a bee-keeper had forty-five colonies, and the disease had made such headway when the bees were examined, that after treating he had only eight colonies left. The loss to this man alone, at a moderate estimate, was over \$200, and this is one case out of many. Many authorities aver that the black bee is more liable to attack than the Italian. We can easily prove the truth of this statement by the examination of a few yards in an affected area. Here we find the blacks being wiped out of existence, while their neighbors the Italians were thriving and showing no trace of the disease. The question ensues, why are the blacks so susceptible? I think we can find the solution by tracing the history of the two races back a few years. We find that the largest breeders have gone in for the Italian race, and have raised their standard by selection. This must naturally make them a more virile bee. The blacks, on the other hand, have not had this same selection; they have been bred without any method of selection in most cases, and consequently their constitution has been weakened and they have lost their vitality to a marked extent.

The same occurrence can be seen in England, with the Isle of Wight disease. There it is the native bee that went under first, while the more carefully bred Italians have proved themselves more hardy in fighting the disease. Bees are like all other forms of live stock, and a stock-breeder or poultry man

would never think of continually breeding without selection or the addition of new blood, and bees should be treated in exactly the same way.

If the bee-keepers want to go in for black bees I believe they could raise a strain that would prove as immune to European Foul Brood as the Italian is at the present time.

They would have to get far enough away from the disease to give their bees a chance to regain some of their lost vigor, and then by careful selection, in course of time a good strain could be raised. Whether such a course is advisable, rests entirely with the producers of comb honey. If they can get a strain of Italians to answer their purpose equal to the blacks, then the latter could be allowed to die out; otherwise make the blacks as vigorous as the Italian. I believe that if such a course of selection was made the honey-gathering capacities of the blacks would be equal to those of the other races.

The symptoms of this disease are well described by Dr. Phillips, and any one having studied these descriptions carefully and being observant could hardly fail to detect the presence of the disease, except that it was in the very earliest stage. The moment a bee-keeper notices that the larvæ are not of a good color, and not possessing the circular position of a healthy larva, then very careful observations should be kept, and on the symptoms developing, treatment should be given. Any case of doubt should always receive the opinions of some one capable of making a correct diagnosis.

Dr. Phillips says there is usually little odor from European Foul Brood. This is true both of the early and latter stages, but when the disease is at its height I have found the odor to be very sickening, and so pronounced that an internal examination was needless. This smell was especially pronounced on a warm day.

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the dead brood capped, I think it shows that the disease is not so chronic, and that when the larvæ were capped they were not dead. I do not think the workers would cap over dead larvæ. In severe cases there is a very small percentage of the dead larvæ sealed.

In sections where European Foul Brood is present or nearby, I would regard the non-swarving of the bees as a very suspicious symptom, and would by careful examination make sure that European Foul Brood was not the cause of their failure to swarm.

The steps for treatment seem to be shaking and requeening with Italian stock, these from a breeder of repute who has selected his queens from his best colonies.

This is the best treatment to recommend to the ordinary bee-keeper. New treatments should not be recommended until we are certain that they will cure. In my own yard I found that the introduction of good Italian queens gave every appearance of cleaning up the disease, but until I have given it a further trial I would not care to guarantee that it is a cure, as some suggest. Too many bee-keepers take for granted that what they are told, or what they read, is correct, without attempting to prove it for themselves, so for that reason I think we should be careful in advocating a new treatment, unless its success has been definitely proved. While treatment is the only remedy when the disease is actually present, there are other steps that can be taken to prevent the spread of the disease. The formation of bee-keepers' associations, either township or county, are good movements in the stopping of the spread of the disease, and not only help in the disease problem, but also go to make more efficient bee-keepers. In support of these organizations I would like to quote an instance that I saw during the past season. There were two bee-keepers, not twenty miles apart, both running apiaries in equally good

locations, and they each had about one hundred colonies. The one belonged to a bee-keepers' association, the other did not. The former had read about European Foul Brood, and last season made just over thirteen times as much as his neighbor, and besides this he re-queened the greater part of his yard with Italians, while the other man will probably wait until European Foul Brood cleans him out before he makes a move.

I found the demonstrations very much appreciated, and where I was able to treat a colony actually having the disease the bee-keepers seemed to have a much clearer idea of how to proceed themselves.

Where the bee-keepers treated early there was little loss of the season's crop, but if the treatment was left too late, the yield was considerably decreased. Wherever the bees were shaken only and not re-queened, the disease broke out again almost at once. The shaking seems useless without the re-queening, and early treatment is far more profitable than later treatment.

### IMPROVING THE BEE

BY ARTHUR C. MILLER.

Now, what do you think of a man wanting to improve the bee? Why, all one has to do is to decide what kind of a bee one wants and pick it out. If one is wanted that is kind, tractable, quiet in harness, won't kick, bite, or balk, select the Carniolans. They are neat in their habits, do not daub up their hive with propolis, and build paper-white combs. To be sure, their coat is but a sombre black, trimmed with soft, grey fur, not striking, but good and serviceable.

Or, if one wants a similar bee, but one that properly guards its doors, just take the Caucasians. Regular gummers, these fellows, and one might, perhaps, do well to keep them for the business of raising varnish gum, though he might

have to dynamite his hives to get the gum out.

Or, mayhap, one prefers a thing of beauty, the glitter of gold, and therefore picks the sparkling goldens. Nice, playful fellows, these, and one needs a fine quality of sheet steel armor with them, for they are prone to be very rough in their play. But they are mighty nice to use when there are other bee-keepers around you, for as sneak thieves they are far and away ahead of anything yet invented, and will pack their hives while those of the neighbors grow beautifully light.

If none of these suit, take some of the old standby, leather-colored Italians. Nice, steady fellows, who mind their own business and do not consort with the festive bee-moth. And if you get the right strain, you will have good, heavy supers and a lame back. We will not mention the sprained fingers and wrists from trying to shake these fellows from the combs, nor will we say a word about the way they perforate cappings when we try to take off the sections.

You, who would specialize on comb honey can pick out the good old blacks, the bee that gran'ther used to keep. They shake off so easily; in fact, they fairly tumble over each other and you, in their anxiety to get off of the combs. It is real sport to find their queen, when one has not another blessed thing to do for a whole long week.

And yet there are those who assert that the honey-bee is not variable, that she is unchanged and unchangeable. There rises to the mind's eye two apiaries which it might profit the persons who hold that view to visit. Both lots are Italians, and beauties, too, well cared for and well handled. The first lot can be handled at any season in any weather, flow or no flow, with scarcely a vestige of smoke. An ideal lot, assuredly.

The bees of the second lot are most excellent workers, but the Old Nick

himself couldn't stand their heat. They meet you far from home, and escort you most attentively. Blow smoke in at the entrance and there rush forth myriads of the ugliest stingers man ever met, and no skill, no method, serves to subdue them. And in the face of this some persons would still have you believe that the honey-bee is not variable.

In color, in habit, and in behavior, the honey-bees vary as much as most kinds of animals and plants. Some of the traits of some races, and other traits of other races, are of advantage to us. If, by crossing and selecting, we can combine and fix the desirable characters, and eliminate the undesirable, we "improve the bee." And there is just as much possibility of doing this with bees as with other animals.

It is not a question of creating a new organ, or of radically changing the size or shape of the bee, but a question of combining all the good traits and leaving out the bad.

We speak of good honey-gatherers as if such bees possessed physical characteristics which were responsible for their work. It is more probable that the good results are due rather to a nervous energy. That some races are better honey-producers than others is pretty well known, and is evidenced by the widespread use of the Italians instead of blacks, Carniolans, etc.

That some strains of the same race are superior to others in honey-getting is disputed, and superior results are attributed to "manipulation" or "management." In the opinion of the writer this view is erroneous, and his opinion is based on many years of careful observation and comparison. In support of this contention, I would cite my system of bee-keeping and the results. With few exceptions, all colonies are re-queened in August of each year with queens which have just begun to lay. This ensures uniformity of colonies the following season. The occasional col-

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ony which may be below normal size in August is brought up to the average when the queen is put in, so that all start evenly. The following spring, save for a cursory examination at the entrance and across the tops of frames, the bees are not manipulated—they don't have to be. Supers are put on before fruit bloom, and the bees left to go it alone, save for getting honey off and putting on more supers.

With such a uniform start, and such a "let-alone" management, every colony shows what it is good for. To be sure, whenever the hives are close together considerable mixing of bees occurs during a good flow, but not enough to materially affect the results. Under the above conditions, when all colonies of a certain strain, regularly on every flow, show greater amount stored than any other strain, we must assume that they are superior workers to the rest. And when this occurs, season after season, the assumption becomes a certainty.

I chance to have in one apiary three strains of bees, and several colonies headed by daughters of one of these strains mated to still another strain. One strain is especially commended for vigor and hardiness, another for gentleness, and the third for wonderful work, and the daughters referred to are from this latter. Every colony of this strain, and of these daughters also, has kept well ahead of the others. Is it not right to consider them superior honey-gatherers?

Granting that bees can be "improved," the objection is made that few bee-keepers are so located that they can get pure matings, and, furthermore, that because the individual male cannot be selected, progress is impossible, or, at best, uncertain. Results belie this. Some bee-keepers have achieved marked results in the work of their bees, others in gentleness, and others in color.

It was the settled conviction of the late Henry Alley that queens mate

within a very few rods of their hive, and that it is the drones that wander afar. My own experience supports this view, and, furthermore, I believe that the flight of the drones is largely controlled by the prevailing winds and the contour of the country.

One apiary which I maintained for over 20 years lay close to the west shore of a large sheet of water. The prevailing winds were southwest. Black bees were abundant one-half mile north. No bees west or southwest, and a few a mile due south. Year after year I reared queens there, and mismating was so exceedingly rare that when it did occur it was a genuine surprise.

So mobile is the bee in my hands that I have gone about the work of building up a series of apiaries of different strains with as much confidence as if I were handling cattle.

It may be asked why I care for several strains? I want pure stock for crossing, and also I want to try out pure stock of my own rearing on the different fields, as I have a notion that some strains are better than others on certain flowers. I may be wrong, but I propose to find out.

I have no bees or queens to sell, for if I produce any "infant prodigies" in the bee line, I do not want them to cause worry and loss of sleep to those who doubt. But it's well to be "from Missouri" sometimes.—*American Bee Journal*.

#### EXPERIENCES AND MISTAKES OF BEGINNERS

J. L. BYER IN GLEANINGS.

While not a beginner any more in the strict sense of the word (yet, after all, it seems but a short time since I was struggling to get enough bees to make a living), there are as yet no *veteran* feelings in my own mind; and as for experiences, naturally I have had the usual amount that come to the lot of anybody

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who starts in any business with no capital and with a family to support.

My first bees were bought on credit, but were not taken on those terms until earnestly requested to do so by the friend who had them for sale. My note for twelve months was given, and the bees were moved in November. They were in single-walled hives when bought, and after that date I transferred them into packed hives that I had made, lifting the combs out two by two from one hive to another. Any one familiar with our climate knows that transferring bees in November here in Ontario is not good policy, but in this case luck favored me, and they wintered all right. The crop was good that season, and I paid for the bees, and had a bit of cash left. This was, of course, "experience;" but I am at a loss to say whether I would consider it a "mistake" for a person situated as I was to go into debt for bees or not. Certainly it is at best a risky way of starting. Just here I might state the promise of the man that, in case I could not meet the note when due, he would not sue me anyway. While he was perfectly honest in this assurance, I suspect it would have done him little good to take such a step, as it "is hard to get blood out of a turnip," as the old saying goes, and so just as useless to try to get money from a man who has none.

In looking back over the past few years I note many things that have been done that seem now to have been "mistakes," and yet under the circumstances I am led to wonder whether some of these "mistakes" could have been avoided. With only a few bees, it was impossible to think of making a living for the family, and of course the thing that came to my mind as a solution of the problem was in line with the advice of our departed friend Hutchinson, "Keep more bees."

With practically no capital, it was impossible for me to discriminate in the matter of hives, etc.; and, as a result,

bees were bought anywhere I could get them, and in all kind of hives. This proceeding naturally gave and is giving me lots of "experience," and to the minds of most men it will no doubt be classed as a "mistake"; yet if placed in the same position again, I no doubt would do just as I did before, with some modifications learned by hard experience of the past. It certainly is, under ordinary conditions, a great mistake to have a number of different sizes of hives; but under exceptional conditions there is license for almost anything, and the position I was in called for radical methods if I was going to keep on top.

During the time I was buying up bees here and there, many more colonies were kept by farmers than is now the case, and I soon learned that I could profitably buy first swarms, when they were offered to me, at about \$1.00 each. Many a night have I driven six or eight miles after a hard day's work on the farm, in order to bring home two or three colonies from some man to whom I had taken empty hives earlier in the season. I remember in particular a farmer friend who complained bitterly because his bees threw out so many after-swarms; and to help him out I told him to hive the first swarms on the old stands, *a la* Heddon, and after six days move the old stock to a distant corner of the apiary. After a week or two he sent word to me to come and get the swarms he had hived for me; and imagine my surprise to find the said swarms with all foundation drawn out, and the bees hanging outside the entrance in great clusters! He remarked, "I fixed the beggars this time so that they would not swarm the second time." He had followed my advice in the matter all right, but little did I suspect that I was going to profit by it at the time. As the man in question seldom tried to get any honey from his bees, my conscience did not bother me any, and I took the bees home, getting about 100 pounds of clover honey from each. This little epi-

sode gave and even admit that as I was

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sode gave me "experience" all right, and even up to the present I cannot admit that there was any mistake so far as I was concerned.

About this time I contracted a disease that I am afraid has become chronic—namely, a desire to talk in the journals as well as face to face with people. Accordingly an article was sent to *Gleanings*, in which I told of the advantages of big hives, incidentally mixing in some other twaddle as well. Being more bashful than at the present time, my name was signed "Jack Canuck, Hoodstown, Ont." Hoodstown was the name of a postoffice in the north that I visited once, but which I knew was closed up at the time of writing. I was rather surprised to see the article printed, and to note that friend E. R. had appended a nice friendly footnote to the same. This made me bolder, and I immediately sent another article, and received the surprise of my life when I got a letter from the publishers with a "credit note" enclosed. Doubtless poor Jack Canuck, of Hoodstown, had received a "credit note" also, and this on my part was a "mistake," and I have never since signed any name but my own, for fear some "credit note" might go astray.

To beginners in bee-keeping, let me say that the habit of getting mixed up in the journals is very hard to "get cured of" when once contracted; so my advice is, never start it if you want to be saved a lot of work and the trouble of answering a pile of correspondence. Of course, if you have no objections to the things mentioned, go ahead, and probably you will get a lot of fun for your trouble, to say nothing of the bit of "pin money" that comes with it as a consoling reward.

The question will naturally be asked how foul brood was avoided when I bought bees in so many places. I was fully alive to the danger of this pest, and as I had never seen a case of foul brood I got in touch with friend Mc-

Evoy, and he sent me word when he was going to visit an infected apiary about twenty-five miles from my home. I made the journey of some fifty-odd miles all told, and I think it paid me well, for from that time it has been no trouble for me to tell the disease at a glance—a cell of foul brood looking much like a blot of ink on a sheet of paper, if I dare make such a comparison. American foul brood has distinctive characteristics that cannot be mistaken to the practised eye, and I have often wondered at hearing some say that they could not learn to detect it. One thing is certain: the beginner today must learn to know bee diseases if he wishes to stay on the job. The trip I have mentioned was worth much to me, for shortly after that time I bought some bees at a sale and found they were diseased. They were promptly cleaned up, and although I have twice since that time bought it again (once knowingly, so as to avoid the bees being scattered all over the country), never have I had any difficulty in cleaning up, and at the present, insofar as I know, there is none in any of my yards.

After getting about 100 colonies in two yards, I had rather severe winter losses, and I came to the conclusion that this matter had to be solved if I wished to make a living out of bees. Diagnosing the dead colonies in the spring, I always found that the bees had either starved outright or else part of the cluster had run out of stores, the rest of the bees usually perishing later on in the spring from dysentery. I used to read about giving twenty-five or thirty pounds of stores for wintering, but gradually I learned that, for outdoor wintering, at least in our climate, it is necessary to have more than that amount, and that, generally speaking, it is a mistake to have a lot of unsealed pollen in the centre of the brood-nest for the bees to cluster on.

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that their success was not due to any particular kind of hive, packing, location, or other minor factors, but simply because they gave their bees abundance of good stores. After a number of years' "experience" with many "mistakes" made in the meantime, I have never changed that view, and upon that main principle rests the success of good wintering, all other factors mentioned, such as hives, packing, etc., being mere incidentals. To the beginner I would urge due attention to this matter, especially if living in a cold climate, otherwise he will not only have unpleasant and unprofitable "experience," but in the end will have to pronounce his bee-keeping career as a huge "mistake."

When taking a retrospective view like this, many events come to one's mind which, while interesting to the parties directly concerned, are not so to readers in general, so I will close this random article, but I wish to add that, with all my varied ups and downs in the struggle to make a living from bees, never once have I regretted my choice of a life vocation; and while we have not made so much money, the friends and associations formed during the time our work has been going on are valued far above monetary considerations. The help received so ungrudgingly from many friends in the past in the way of advice, etc., is remembered with pleasure, and it is always a source of pleasure for me to help others struggling along, when it is in my power to do so. Never once do I recall asking for any favor from a bee-keeper but that it was granted in a spirit showing that the help was freely given. Last, but not least, the best help I have had in the matter of attaining any little success in life that has come our way is the company of a *good wife*, and let me say that every beginner needs this "experience," otherwise his life is apt to be pretty much a series of big "mistakes."

## BE A BOOSTER

E. D. TOWNSEND, IN THE BEE-KEEPERS' REVIEW.

You are all acquainted with the fellow who sets on a goods box in front of the local store and spins yarns about things of small import. He tells you his town is "on the hummer," there is nothing doing, the poorest place to buy things, etc., in the state. You will notice that in all his "bluster" he will not tell you *where* the better town is, for he is a natural born "knocker."

Be a booster. It will not cost you a cent to tell of the good things of your town, forgetting the things you disapprove of, for every time you speak good or evil of your town and its people, either a good or bad impression is spread broadcast.

Brother, we would like a good word from you to your neighbor bee-keeper about the National. If you cannot say a good word, say as good a word as you can, then, if you think there is something wrong in the management of the National Association, write me your thought, and suggest any improvement or change you think would make the National of more benefit to the members, and I assure you that every suggestion will be considered. Write to-day.

In approaching a prospective member, say to him, WE are trying to build up the National so it will be the largest and best association on earth; that the management has done something for the members in a financial way in the past, and will promise to do *more* during 1913 than any previous year.

Then there is the social feature. Bring him with you to our state meetings. Get him interested in the Association, then he, too, some day will be a "booster."

The National has never in the past had the support of more than about one per cent. of the available material. It is so with all farm associations, about

one in each of their organization a conundrum business without a question at this time? Why!

## Want ad

Advertisements received at the office of the Bee-keepers' Review, each month. Payments for advertising are to be made in advance. Write sheet from another side of the paper many times and must reach us each month.

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one in each hundred belonging to any of their organizations. Why it is so is a conundrum. Do you know that the business world "smiles" with satisfaction at this indifference among ruralists? Why!

Want and Exchange Column

Advertisements for this column will be received at the rate of 50 cents for 25 words, each additional word one cent. Payments strictly in advance, as the amounts are too small to permit of book-keeping. Write copy of ad. on a separate sheet from any other matter, and on one side of the paper only. Say plainly how many times ad is to be inserted. Matter must reach us not later than the 23rd of each month.

WANTED

WANTED—Your order for untested, leather-colored Italian Queens. One 75c; 10 for \$7. Select virgins, 10 for \$4.50. N. E. France & Son, Platteville, Wis., U.S.A.

WANTED—Representative wanted in each locality to mail circulars for Cut-Rate Grocery Mail Order House. Few hours' spare time will easily earn \$20 weekly. Any one can do the work. Outfit furnished free. Dominion Grocery Co., Windsor, Ont.

WANTED, BEES ON SHARES—A lady with an extensive experience of bee-keeping in New Zealand, England and Canada, desires to take an apary on shares. Excellent references will be furnished. Apply Box L, Canadian Bee Journal, Brantford, Ontario.

SITUATION WANTED—By a young man who has successfully passed his examinations after taking a course of lectures and demonstrations in Apiculture at the Ontario Agricultural College. Anyone desiring help of this kind for the season of 1913 kindly correspond with Morley Pettit, Provincial Apiarist, Ontario Agricultural College, Guelph, Canada.

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FOR SALE—A limited number of leather colored Italian Queens for sale. Warranted purely mated. \$1.50 each. Geo. B. Howe, Black River, New York.

FOR SALE—Queens and half-pound packages. A good strain of 3-banded Italians for honey, now ready. Satisfaction guaranteed. W. D. Achord, Fitzpatrick, Ala., U.S.A.

GOLDEN QUEEN BEES, ready to mail at \$1.00 each; six for \$5.00. This stock has been favorably reported upon in black brood localities; also for fowl brood. J. B. Case, Port Orange, Fla., U.S.A.

FOR SALE—Golden Italian Queens; tested \$1.00, select tested \$1.25, untested 70c each, dozen \$8.00. After July 1st: Un- tested 60c each, dozen \$7.00. Send for price list. D. T. Gaster, Rt. 2. Randleman, N.C., U.S.A.

FOR SALE—10,000 lbs fancy honey, light and dark amber, barrels and 60-lb cans, same as we use for bottle trade; dark amber, 10c. Exhibition White Wyandottes, \$1.00 per set; baby chicks, 15 to 20c. Queens, \$1.00. Todd Bros., Milltown, N.B.

ITALIAN QUEENS after May 1st. Robey, Alexander or Case strains. Untested, 75c; tested, \$1.25 breeders, \$3.00; Carniolan, Cyprian, Caucasian and Banats, untested, \$1.00; tested, \$1.50. Honey packages and supplies. W. C. Morris, Nepperhan Heights, Yonkers, N.Y., U.S.A.

ITALIAN QUEENS—3-banded, finest quality; raised in latitude 59°. Tested: June, \$3.00; July, \$2.50; August, \$2.00. Breeders: June, \$6.00; July, \$5.00; August, \$4.00. Rebate of 25 per cent. when purchased by the dozen. Alexander Lundgren, 12 Tomtebogatan, Stockholm, Sweden, Europe.

LAST Spring we were a hundred or more colonies short in filling orders. We are prepared to book orders for ten-frame Langstroth colonies, 75 per cent. pure Italian, balance Italian and Carniolan mixed; all from Southern States in Spring. Guaranteed free from disease. R. F. Holtermann, Brantford, Ont.

FOR SALE IN SEASON—Highest cash price paid for Honey, Wax and Bees. Leather colored and Golden Italian Queens. Limited number of Carniolans, bred in different yards. Virgins, 40 cents; tested queens, 70 cents; untested, \$1.00; select tested, \$1.50; breeders, \$2.00 to \$3.00. Bee hives made to order; whole line of A. I. Root goods at lowest prices. Address (to May 1st) F. W. Bell, 4 Cherrier Street, Montreal, Quebec.

Honey Wanted

A firm with whom we have connections wishes to get in touch with a producer who has extracted honey for sale.

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**CARNIOLAN ALPINE QUEENS****GRAY WORKERS—SELECT TESTED QUEENS**

March, April, \$5.00

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Shipped to all parts of the world; postage free. Safe arrival guaranteed. International money order with every order. Dead queens replaced if returned in 24 hours after arrival. References respecting financial and commercial responsibility of the undersigned Association can be had at every Imperial and Royal Austro-Hungarian Consulate in the United States and Canada. Write for our booklet. Orders for nuclei and hives CANNOT be filled until everything concerning this line of business is properly arranged.

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<b>GOLDEN</b>	<b>3 BAND ITALIAN</b>	<b>CARNIOLAN</b>
Untested—1 for \$1.00	6 for \$5.40.	12 for \$9.60.
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<b>Nuclei with Untested Queen</b> —1 Frame \$2.50.	2 Frame \$3.50.	Six 1 Frame \$15.00.
“ “ <b>Tested</b> “	1 Frame \$3.00.	Six 2 Frame \$20.40.
“ “	2 Frame \$4.00.	Six 1 Frame \$17.40.
		Six 2 Frame \$23.40.

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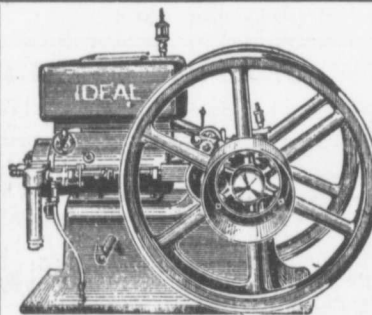
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