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Notes and Comments

By J. L. BYER

Good Honey and the Marketing of the Same.

At the Victoria County Bee-keepers' Convention, held at Little Britain, on Good Friday, Mr. John Timbers of Cherrywood read a characteristic paper on the production and marketing of good honey. As many readers of the "Canadian Bee Journal" are aware, Mr. Timbers is an expert in the matter of selling his honey, as well as being very particular to have the honey he has for sale of the very best quality. I have taken the liberty of copying some thoughts from his paper and giving "Canadian Bee Journal" readers the benefit of the same. "In the production of good honey two factors have to be taken into consideration, viz., the source from which the bees gather the nectar, and the part the bee-keeper has played in the production of the finished article. No matter how good the nectar, the bee-keeper can spoil the honey, and in order to produce good honey the bee-keeper must thoroughly understand his business, as this article cannot be read by slipshod methods." "At least the important points must be observed

in the production of good honey, and I would briefly classify them as follows: Honey must be of good body and well-ripened by the bees, as no artificially-ripened honey can be of the best quality. It must be of good color; in fact, I would put color first, but as so many would disagree with me, we will let it take second place. The flavor; good results cannot be obtained by mixing two or more flavors together, nor by extracting from dirty combs, nor from the brood-nest, as a mixture of larvae, bee-bread and royal jelly is never of very good flavor. I am at a loss to express in words just exactly what I want to convey, but I shall call it the 'finish,' as I heard Mr. W. Z. Hutchinson call it that once, and he should know what he is talking about. But what I mean is that nice velvety smoothness that is found in No. 1 honey, and in no other grade. In my experience, the less the honey is agitated after being taken from the combs, the better this 'finish' is preserved. The aroma; to preserve this the honey should be well covered as soon as it is extracted. If to be stored in pails, it should be run into tanks first until the scum rises, then carefully skimmed and put into the receptacles at once. If the foregoing rules are observed, and other conditions being favorable, over which we have no control, the bee-keeper may reasonably expect a crop of good honey." "As to the mar-

keting of the honey, I think I can do no better than give you my methods, as I have been very successful in selling at a good price all the honey I have ever produced. In the first place, never be stingy over a good dish of honey, and, like the old Scotch lady, always give 'the guld thing.' It has the twofold effect of educating your neighbors to eat honey, and of keeping your apiary from being molested. Always put your honey up in clean, attractive packages; work the home market for all it is worth; charge a fair price, and charge everybody the same price. Never sell a pail of honey without labelling it 'Pure Honey,' and always have your name and address on every package. Never deceive a customer, don't be afraid to offer your honey for sale, and, if possible, keep some on hand the year round. As to wholesaling, have had little experience, so have nothing to offer, only this: Be sure and never sell on commission."

Prospects of Crop and Prices for the Coming Season.

Speaking of honey and the selling of the same naturally has a tendency to cause us to speculate somewhat as to prospects for the coming season. I was glad to note in Editorial Column of April "Canadian Bee Journal" that reports are generally favorable over Ontario as regards to how bees have wintered. I am very sorry, though, to say that these "favorable" reports are not general in York County, by any means, as winter and spring losses are away above the average. Probably, as intimated in the editorial referred to, honey-dew is largely responsible for the trouble. At any rate, my own experience would seem to bear out this idea. At the home and Cashel yards honey-dew was plentiful last season, and the winter loss is heavy at both

miles away, where no honey-dew was in evidence, every colony is alive, and, with the exception of a couple of colonies, all are very strong at this date, April 27th. To make matters worse, the continued freezing at night and thawing by day, for over four weeks, has heaved the clover, so that much of it is destroyed, and the balance badly damaged. Certainly, with us, the prospects are not bright towards securing a crop of honey. As to prices, whether the crop be normal or small, when one takes into consideration the bare market, and inflated prices of all necessaries, it seems reasonable to think that honey should sell higher than in former years, and continue at or near the present ruling prices. In common with some others, I differed a little with Mr. Sibbald when he expressed this view in the President's address at the Ontario Convention, but the more I think over conditions as they exist the more I am convinced of the reasonableness of his contention. Practically everything that the bee-keeper has to buy has advanced and is advancing, so, as hinted at previously, the only way the bee-keeper can keep level with economic conditions is by advancing the price of the commodity he has to sell, viz., honey and beeswax.

To show that I am not alone on this question, I am going to quote from a letter just to hand from our friend Denis Nolan of Newton Robinson. Among other things Mr. Nolan says: "The loss (of bees) is at least fairly heavy, clover is suffering under unfavorable weather, tins advancing ten per cent, and, above all, the purchasing power of money is lower now than it has been for years." The conditions as outlined by Mr. Nolan, are apparent to all, and it rests with us, as beekeepers, to decide how best to meet these conditions. It has been common

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In the past to blame the bee-keeper with a few colonies for cutting prices, but, if our locality is a fair criterion, this excuse is removed, as nearly all the bees around us are now kept by men who can be properly called specialists. By thus writing I would not be understood as being desirous of unduly raising the price of any commodity, and I honestly believe that with present conditions honey is well worth the price it is now selling at.

Clipping Queens.

As a great many bee-keepers seem to discount the practicability of my method of clipping queens, it is with a feeling of pleasure that I note that I have such good company as Mr. R. C. Aiken of Loveland, Colorado. As some have asked me how many legs I clip off, Mr. Aikens' testimony will answer that and other questions better than I am able to do so. In a well-written article in "American Bee Journal," page 261, entitled "Spring Management," Mr. Aiken has the following

to say re clipping queens: "For clipping I carry a little pair of scissors in my vest pocket; they are about as long as my finger, and when I locate the queen, out come those scissors, and they follow her until I get a blade under a wing, when off it goes. I don't cut one leg in many hundreds of queens—I think I have never clipped but one leg. I never attempt to catch the queen to clip her, except in rare cases, as in swarms, or when she is frightened so I cannot follow her with the scissors. Many never are aware they are clipped." I don't know if the scissors Mr. Aiken uses are straight or not. If they are straight, I feel sure that if he once used a pair of the curved, pointed surgeon's scissors, like the ones I have, he would get a pair at once. As to clipping legs, I remember of taking off one some few years ago, but that was before I adopted the better plan of clipping the queens without catching them.

Markham, Ont.



The Middlesex County Convention

The Middlesex County Bee-keepers' Association met in the City Hall, London, Saturday, May 4th, morning and afternoon sessions. There was a good attendance of members and others. Among the visiting brethren were Messrs. W. A. Chrysler (Chatham), R. F. Holtermann (Brantford), Arthur Laing (St. Thomas), and the Editor of the "Canadian Bee Journal." The sessions were exceedingly interesting, and

the discussions heartily entered into by those present.

Wintering reports showed heavy losses in many instances, and in nearly all cases attributed to inferior stores—honey dew. Mr. John McEwen, Clandeboye, however, had an exceptionally cheering record, which illustrated the possibilities of successful wintering, having only lost three colonies out of two hundred; a neighbor has only four

alive out of sixty colonies. Mr. McEwen attributed part of his success to early preparation and packing, having put away his bees in September. Mr. D. Anguish of Scottville declared against top-sealing; he experimented a little in this way last winter, with very bad results. Mr. F. A. Gemmill remarked on this report that a very large entrance is requisite when bees are wintered with sealed quilts and covers. Mr. W. A. Chrysler said that the lesson of last winter, to him, is, that in future he will feed ten pounds of sugar syrup, in addition to regular stores, his idea being that the bees will use the syrup first, and it will carry them over until towards spring, when any chances of honey-dew will be less liable to do harm. Mr. R. F. Holtermann reported a loss of sixteen out of three hundred and twenty-two colonies. He fed forty-six showing signs of dysentery in the cellar a quantity of sugar syrup, in flat pans, pushed in at the entrance, with the effect that the disease disappeared and the colonies, which probably would have weakened or died, came through all right. It was the impression of this meeting that there has not been much spring dwindling, owing to the fact that the bees have been kept in their hives by the cold, backward weather up to date. Prospects for the season so far are not very bright.

The experiments in wintering conducted at the O. A. C., Guelph, came under somewhat severe criticism, and a resolution was passed, requesting that, as practical experiments are valued by bee-keepers in this direction, such in future should be suggested by the executive of the Ontario Bee-keepers' Association.

The selling of honey and current prices were discussed at considerable length. It was opened by the following

paper from Mr. W. A. Chrysler:

New Conditions Appearing in Our Honey Market.

While most of us here have little to complain of in regard to fair prices and demand for our honey, there are many bee-keepers who produce a good quality of honey and do not meet with that ready sale, nor receive as good a price as their honey should bring. A home market may be found in many instances to give fair prices, and will continue to do so, providing no undue competition or over-production arises, and where the bee-keeper can be certain that the honey reached the consumer in its purity and good condition. I know of many instances of grocers purchasing honey in bulk, and, for lack of time and conveniences to put it in shape for retailing, have allowed the honey to spoil or to be so deteriorated in quality that the consumer, after using it, soon prefers not to buy honey. It also has been, and no doubt is yet, a fact that some dealers and manufacturers of food products purchase extracted honey, adulterate it and put it on the market, and thus deceiving the public and destroying the reputation of honey as a food. In the Northwest of our country there is springing up a demand for our honey, and we, as bee-keepers, have not a moment to lose if we wish to maintain the reputation for our product in that country, in preventing adulterated stuff being sold in competition with the pure article.

1st. We should ask the Inland Revenue Department at Ottawa to have samples of honey collected annually, and at a time of year when honey is exposed for sale from the greatest number of sources, and the names and addresses of the adulterators published and distributed to at least all the bee-keepers' associations.

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The robbing o by the stronger troubles of the of the year, and ed against by apiarist. In no does the old adage than cure," fit in M. Doolittle deals the "American Bee following article:

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2nd. That honey shipped away from a bee-keeper's home market should be marketed in a co-operative way, and a bee-keeper of experience, or one of a thorough knowledge of the product, be employed as a salesman to place it in the retailers' hands, and in retail packages as far as possible. One salesman could sell the product of a great many bee-keepers, and, when sent to distant markets, obtain better prices and enough extra to pay his expenses and commission.

3rd. To have producers put their honey in retail packages as far as possible, thus saving the labor and expense of re-liquifying and putting into final packages for retail.

The empty wholesale package is of no use to the grocer or the one who buys it in bulk for retail; it practically goes to the scrap-heap. It cost money, and if in 60-pound tins, cost enough nearly, if not quite, to pay freight to a distant market. Time is seeing great changes in this country. The North-

west is growing at such a rate, and the demand for honey so good, that our former low prices for honey need never return again, nor need we have anything to fear in regard to prices, should we produce twice as much honey as we have in the past, should it be distributed properly.

W. A. Chrysler.

The possibilities of co-operative marketing was taken up, and a committee appointed, which reported before the close of the meeting that the members of the Association should report to the secretary the amount of honey they may have to dispose of at the end of the season after supplying their local markets, and that such be shipped in a co-operative way, and under proper supervision, to the Western markets.

The Middlesex Association is in a flourishing condition, and much credit is due to the President, Mr. F. J. Miller, and the Secretary, Mr. Bainard, for its success.

Bees Robbing in the Spring

The robbing of the weaker colonies by the stronger is one of the frequent troubles of the apiary at this season of the year, and that should be guarded against by the vigilance of the apiarist. In no other circumstances does the old adage "prevention is better than cure," fit in so appropriately. G. M. Doolittle deals with the subject in the "American Bee Journal" in the following article:

"After setting the bees from the cellar

it sometimes happens, especially if the weather is very warm, that the first set out will commence to rob or carry off the stores of those set out last, which are so busy with their cleansing flight that they do not seem to notice the robbers. Robbing is not always confined to such colonies, but all weak colonies, whether wintered in the cellar or otherwise, and especially queenless colonies, are subject to attack in early spring, and I know of no one

thing more vexatious to the apiarist than robbing. But how are we to tell when a colony is being robbed? is the question nearly always asked by the novice, and the answerin; of that question has often puzzled the bee-keeper of several years' experience, when he has almost been ready to decide that a colony from which the bees are seen running out and in with much commotion at the entrance, are robbing or being robbed, while later on he was obliged to admit that what he saw was nothing more than the colony having a general play-spell.

While to the experienced eye, robber bees are generally quite easily distinguished, yet those just starting in bee-keeping are often perplexed to know whether the bees are being robbed or not, as young bees at play often resemble robbers. Robber-bees are generally so filled with honey that they are conspicuous for their size when leaving the hive; but a young bee taking its first flight is often just as conspicuous from the load of excrement it is anxious to avoid. Robber-bees often run up the sides of the hive or a long way out on the alighting-board before taking wing, and a young bee when taking its first flight, more often than otherwise, does the same thing.

Robber-bees turn with the head toward the entrance of the hive when taking wing, so as to mark where to come back for another load of honey, and the young bee on its first flight always turns thus with its head toward the entrance so as to mark its location, so it may always thereafter know just where home is. Thus we find robber-bees, and young bees on their first flight or play-spell, acting almost exactly alike. But if we look closely we shall see that these young bees are much lighter-colored than are the robber-bees very many of which are dark

and often shiny by having the fine hairs on the back of the abdomen all scraped or worn off by their many encounters in trying to enter other hives.

However, I know of but one sure way for inexperienced persons to tell when a colony of bees are being robbed, and that is by killing two or three of the mistrusted bees and dissecting them so as to expose the honey-sac. If this sac is empty there is nothing wrong, but if you find a bee leaving a hive with its sac full of honey, rest assured that robbing is going on, for bees in a normal condition should always be conveying honey to the hive, not from it.

Then another way or telling is to keep the entrance of any hive suspected of being robbed closed so that only a few bees can go in and out at a time, so that if robbing is going on, no large amount can be carried off in four or five hours; then look after such hives toward sunset, and if the commotion is still kept up about the entrance of these hives while the bees have quite generally settled down to where there are only a few flying, you can rest assured that such hives as have bees rushing in and out of the entrance thus late in the day, while the most of the rest of the colonies are becoming quiet, are being robbed or are robbing other colonies. It is now quite easy to tell whether they are robbing or being robbed, for if robbing, as the air begins to get cool and heavy the loaded bees will drop short of the entrance; while the hive that is being robbed will show many bees that are unable to take wing with their heavy loads on first trials.

Having found out that any colony is being robbed, what is to be done to save such a colony? This question has received very many answers, which I will not attempt to give here. If you

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mistrust that only one or two colonies are at the work of robbing, sprinkle a little flour on the robber bees as they go out from the colony being robbed with their loads of honey, having an assistant stand at the hives you suspect are doing the robbing, and if the returning bees are covered with flour, you are positively sure that you have found at least one of the colonies which is doing the stealing. If more than one is at work at this robbing, mark the strongest one, and as soon as darkness has stopped the flying of all bees, carry the colony that was being robbed and put it on the stand of the marked strong colony, and put this strong colony on the stand just occupied by the colony which was being robbed. Do this in the evening as soon as the bees stop flying. Don't allow yourself to think that you can do it in the morning just as well, for it often happens that the bees are out and at their work of stealing at the first sights of day, before you are up. Where it is so an exchange can thus be made, it is generally the means of stopping the whole trouble.

It is often very laughable to see the look of disgust that comes on the robber-bee after he has sallied out the next morning, leaving his hive without noting that it is not where it was, and then hurrying back into it with an air of "I'll soon be home with a load," only to find that she has gone back to the "wrong" hive; then come out again, look the whole situation over, and finally go and make her home with the colony she had been robbing all of the day before, because it is now where her old home was. Then where more than one hive had been doing the robbing, and a robber from the other hive comes after a load, she is seized so quickly by this strong colony that she shows a feeling of "goodluck" when

she gets away and returns home, satisfied not to try the thing again.

But it is not always that we are so fortunate as to find that only one colony is being robbed, for it is often our neighbors' bees that are concerned in this work, or we have a general mix-up of many colonies in the apiary. Where this is the case I know of no better way than, at nightfall, to carry the robbed colony or colonies into the cellar, and leave them there for a few days till pollen becomes plenty, or the bees mainly forget about this stealing affair, when, near sunset of some nice day they are to be set back on their own stand again, examined as to their strength in bees and stores, adjusting the entrance to suit the size of the colony, and reducing their stores by taking away combs of the same till they have only what you think they can reasonably protect, and shutting them on the combs you have allowed them by means of a dummy. In this way any colony that is of any value (alone) can be saved, and if too small as to numbers of bees to hold its own, then it should be united with another colony, doing this at this time, so that the bees when they have their flight the next day may mark their location anew, as they will always do after being a week in the cellar.

In closing, allow me to say that if we are careful to adjust the entrances to suit the size of all colonies just after their first flight in the spring, and take away all surplus of stores from all colonies which are few in bees, shutting them on the combs left, as I have above advised, we shall have very little trouble with robbing. Here, as elsewhere, in bee-keeping, "an ounce of prevention is worth a pound of cure." I especially recommend this prevention part to the correspondent, and all others who are not entirely familiar with this part of bee-keeping."

The Wholesale and Retail Prices of Honey

No Need to go Abroad to Find a Market for Our Honey.

It was with pleasure that I read the report in the "Canadian Bee Journal" of the convention recently held in Brantford. I am sure that every member of our Association is very much pleased with the remarks there of our newly-appointed secretary, Mr. Hodgetts. He is without doubt the right man in the right place. There are many things I would like to mention regarding these, but will only touch upon one at present. The old question of finding a market for our product seems to be still a "burning" one. I do not think, however, there will be any need of going out of our own country to dispose of all the honey we can produce. With such an increase going on in our population, and which bids fair to continue for a long time to come, there need be no question about the demand being greater than the supply. Of course, many will require educating as to its many virtues, but I am satisfied that any effort along this line will yield better returns than in hunting up a foreign market. The great problem with some of us is where we can buy our supply. Last season's scarcity and consequent advance in prices may induce some to hold, with the hope of disposing of their crop to a better advantage later on. I might just say here that the honey trade in Canada differs somewhat from most other countries. I have reference to the growing demand for honey in the Northwest. Merchants there lay in their stock before navi-

gation closes, as it means a saving in freight. It is well it is so, as it is better for the producer, as well as the shipper, that this work should be mostly, if not all, done before cold weather sets in. Alexander is not far astray in recommending the early disposing of the crop, and then have time for rest, recreation and reading during the winter. I might say that this is the way I am endeavoring to work it, buy early, then ship early, and have all out of the way about the time the bees are. If the old difficulty could be overcome of selling retail at wholesale, quite a step would be taken. Many a consumer would buy more honey were it for sale in the stores, and many, if not all, merchants would make it a point of having it if they could make a reasonable profit on it. No one can pay rent, taxes, hired help, and so many other things, without quite a margin of profit, and the beekeeper would, of course, be the gainer also, as he would have this extra for any he retailed himself. Let us be clear in this matter. I hold that no matter how much a consumer buys, he should still pay an advance over what the retail merchant does, and a still greater advance over what the wholesaler or commission man should pay. As with groceries, so with honey. On the other day I noticed that the wholesale grocers refused to handle a certain make of goods because the producer sold to the retail trade at the same price as themselves. How could the

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continue in business and compete in this way? Of course, the consumer should be able to buy 100 pounds for less than if only one pound was purchased, but there should still be left a margin of reduction for the merchant who may only buy the same quantity, or else how can he sell at a profit? In any market first-class honey should never go below 10c retail, but whatever reduction is made for quantity, let it never be so low but what you can sell to the merchant for a little less. For example, when honey retails at 10c, the merchant, when buying in bulk, should get it for 8c, and the wholesaler or commission man, who sells to the retail merchant, should get it for 7c. One doing a very large business might handle for less margin of profit, but I can hardly see how a firm doing business in a large city, where expenses of all kinds are high, can use his capital, take all risks of bad debts, and do it for much less. The wholesaler who buys in large lots, apart from the fact of having to sell to the retail merchant, and not to the consumer, is entitled to a reduction apart from the fact that it should be worth a little to us to dispose of our crop all in one lump. When we sell and take it out in trade, the merchant, as a rule, will be satisfied with less profit, but, except under very unfavorable circumstances, should we expect him to pay retail prices? If beekeepers would place more value on their time and sell retail only at retail prices, it would be much better. So many people value things at what it costs them in cash, or what they could sell for in cash, placing no value whatever on their time. There is this, also, unless we get considerable extra when selling in small quantities, we never seem to get the same benefit as when a large sale is made, even at a

small profit. Apart from the extra work in selling in small quantities, not even a merchant with his delicate weighing scales can do it without a loss. With many others, I think we should keep the prices up. Everything is higher. The cost of production is more, lumber for hives is dearer and honey need never go so low again. The difficulty seems to be to get beekeepers to know this. If one does not take a bee journal, it is pretty hard to reach him. Possibly our secretary, with his list of bee-keepers of this country, may help the buyer, while at the same time helping out any individual bee-keepers who have no market for their honey, but also others, who would get better prices as a consequence.

I said that honey should never go below 10c retail. I will go further than this. It should be at least 12c per pound in the home market, in small quantities. In 10-pound pails, say 11c; in a 60-pound tin at 10c per pound. The retail merchant then should pay 9c and the commission man or wholesaler 8c. When honey cannot be bought by the wholesaler for less than 8c, then the retail price should not be less than 12c. If it can be bought at 7c, then 10c might be satisfactory. This would be an encouragement for everybody to try and sell honey. The merchant, when weighing out small lots, would make 3c per pound or 1c per pound in 60-pound lots. If he goes to the trouble of bottling, it would be, if we take a quart sealer (wine measure) as an example, as follows: 2½ lbs at 12c = 33c + 6c for the bottle; total, 38c. Who is there that would say the merchant is getting too much for his trouble and sale? If the beekeeper did the bottling for him, he (the merchant) should pay more. It would be well for the producer to keep

these things in mind. If he wants to sell wholesale at a paying figure, then keep the retail price up. Some might suppose that this would curtail the consumption of honey. Not so. What would be lost in one way would more than be made up by the merchant having it always on hand, and the inducement for the consumer to buy in larger quantities. I say, then, if you should receive three enquiries from Toronto or some other point, one from a consumer, one from a retail grocer, and one from a commission man or wholesaler, asking for your prices on honey, make a distinction. If 10c to the con-

sumer, then I would say 8c to the retailer and 7c to the wholesaler. If you cannot afford to sell at 7c wholesale, then do not sell at 10c to the consumer, otherwise you are putting somebody else out of business who every bee-keeper should encourage. You surely cannot expect them to sell for more than you can. In closing, I am more than ever convinced that when we have a really first-class article, it is very difficult to get a first-class price, and for every one to have a fair margin of profit.

" G. A. Deadman.

Brussels, Ont.

Checking Swarming

1. Give ample ventilation by having a deep entrance the whole front of the hive, by raising the front from the floorboard by means of half or whole-inch blocks, by ventilating the supers in very warm weather, and by giving a rack of sections overhead beyond what the bees may actually require for storing room.

2. In cases of very prolific queens watch early in the season, and when the nine or ten frames are getting glutted with honey set a second hive body with the same number of frames below, confining the queen to this lower body by preference on a comb of brood placed there on the morning of a fine warm day when the bees are busy foraging, when they will generally start work at once building and storing, and tending the eggs laid by the queen. When fear of swarming is over this top box may be taken off and replaced by sections,

or it may be left on as a super chamber from which to extract.

3. Do not start stimulative feeding at too early a date, as thereby you bring your full force of bees to the crest of the wave too soon. And do not do too much spreading of the brood if you do not want swarming. Many carry out both these operations unduly, securing very powerful colonies before the chief honey-flow opens, and then they wonder why bees swarm, when the wonder would be if they would not do so.

4. Before the swarming fever fairly seizes on the bees, take some 3-lb frames, which are a solid block of sealed brood, and enrich your medium colonies, thus bringing them up to the first rank with brood the other can well spare. The three or four combs may be used to make up nuclei to furnish young queens later in the sea-

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son. A Carniolan colony serves this purpose very well, as the withdrawing of frames at regular intervals keeps even these prolific queens from glutting the brood nest.

5. If medium increase is no objection, making three colonies out of two at the right time hinders swarming. A modification of this may be sought in exchanging hives. A very strong colony may be transferred to the stand of a weak one, while the weakling is brought up to a high degree of strength by the acquisition of the flying bees from the shifted hive.

6. Make a "shaken swarm" of your bees, and place the old stock close beside the other colony. After some time lift it bodily over to the other side of the hive. This can be repeated, and at the end of 21 days, the hive may be cleared away, giving the full force of bees to the new lot. Instead of this removal of the original body-box many prefer to place it above the other one, as this insures that there will be no loss from chilled brood, which sometimes results when the combs are overmuch depleted by bees.

7. Caging the queen for some days, closing her on one or two frames by means of excluder-zinc, forcibly preventing her from leaving the hive by a trap or excluder in front, have been tried; while some have even recommended that she should be bodily drawn for even ten days. It may be taken as a truism, however, that force here is no remedy, and a long cessation of egg-laying, from whatever cause, acts in the long run to the detriment of the colony.

8. Simmins says that a colony with a full body below with unfinished combs, or a long hive with a suitable number of combs incomplete in front of the actual brood-body, never swarms. The process seems to me to be expensive, cumbersome, and labor-

ious. While, perhaps, in theory it is about correct, the manner in which it is generally carried out makes it unreliable.

9. Keep no old, failing queens. These are a fertile source of swarms. As soon as the bees feel a desire to supersede a queen their first thought is to secure queen-cells. Once these are started scarcely anything will quite get rid of the crazy impulse.

10. Undoubtedly strains of bees differ very much in their propensity to swarm. If you have bees determined to trek re-queen them. Races, of course, differ very considerably. Our common bee is not given to excessive swarming, but so much of the foreign element is being steadily introduced that they are fast becoming contaminated.

11. The presence of drones in undue numbers make it pretty certain that bees will acquire a desire to seek a new home. The ancient skeppist knew this, and depending as he did on increase, he rejoiced to see the presence of a large body of drones in early June. Under modern methods we can keep their numbers down. If on examining a hive you discover too many drone-cells, shave off their heads if sealed, and place some powdered sulphur in cells which show drone larvae, thus lessening the output of these undesirable.

12. Whenever a hive is opened in May or June, notice the presence of queen-cells, even in a rudimentary form, and quietly, but ruthlessly pinch them with your finger and thumb. The "cure" may be only temporary, but it provides a breeding space. Some of the newer "systems" designed to check the swarming are based on a ready means of observing and cutting out queen-cells.

I think the instinct to swarm, so ingrained in the being of the bee, could

be bred out. For three years I had a total of only three swarms; the numbers standing two, one, none; and this year up to date I have had no swarm. It may be the strain of bees, but I think the system chiefly contained in No. 1 or No. 2 deserves most credit." D. M. M., Banff.—The Bee-Keepers' Record (British).

SOFT BEE CANDY.

This recipe for making soft candy for feeding bees and for queen cages, appeared in The Canadian Bee Journal of October, 1905. We have been asked for it until copies are about exhausted, so are here repeating the direction as given by good Brother Columban, of St. Mary's Abbey, Buckfast, England:

"In making this candy I use an ordinary enameled saucepan or preserving pan, and into this I put 15 lbs. of sugar (cane sugar, white crystals), and three quarts of water, hot for preference. This I put over a clear, strong, fire, and stir until the sugar is quite dissolved. When it begins to boil I draw the pan aside for a moment, so that whilst it continues to boil slowly, I may be able to take off the scum and all impurities. The spoon which I used for stirring, being no longer required, is also removed. This done, I return the sugar to the strong fire, and leave it to boil as fast as possible, without stirring for about twenty minutes. Then, to ascertain whether it is finished or not, I take a bowl of cold water in my left hand, dip the forefinger of my right hand first in the cold water, next in the boiling sugar, and then again in the cold water, and with the sugar adhering to my forefinger, I try to make a soft ball like a piece of putty ready for use. More time is required to describe than to carry out these operations. They ought not to take more than two or three seconds. The forefinger must be kept curved whilst dip-

ping it into the boiling sugar and a little skill and courage are required to do it for the first time, although it is not difficult at all. A sugar-boiling thermometer would be a convenient substitute. If with the sugar adhering to my forefinger I have not been able to make the ball mentioned above, the sugar must be boiled a little longer. If, on the contrary, I have been able to make it, no more boiling is necessary. Now I pour in about 5 lbs. of honey (about 5oz. per lb. of sugar), which I had ready at hand. The mixture must be boiled for one or two minutes, but great care must be taken not to let it overflow, as honey is apt to rise quickly like milk. I find that adding a little piece of butter of the size of a hazel nut, often causes it to settle down, but not always. After boiling for a minute or two, as said, I take the saucepan off the fire and medicate with Naphthol Beta, two tablespoonfuls of the "Guide Book" solution for 20 lbs., mixing it well in. Then to cool the mixture I pour it out into a square tin, 21 by 15 inches, and in one of this size 20 lbs. should cool sufficiently in about an hour, or in less time, if the vessel is placed in cold water. During the cooling process I do not stir; note this well, for if stirred the candy would be sandy and rough in grain. When the sugar has cooled down to such a degree that I can keep my finger in it for half a minute, without scalding, then only do I begin to stir, and continue to do so, till the candy becomes white and hard. It is now finished, but in order to transfer it to suitable moulds I must warm it again, and I put it all into a milk pan, which fits on to a boiler containing hot water. There the candy gets more or less liquid, like cream, and an occasional stir must be given to dissolve all lumps. When uniformly dissolved and sufficiently hot (say about 204 or 205 degrees F.) I pour

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It into plates or boxes, and allow it to cool. The candy, if stored in a dry, cool room, will keep soft for years. If, by accident, the sugar has been over-boiled, in which case it breaks when tested instead of rolling up into a soft ball,) I add a little water to it, and boil again to the proper point. As a preventive of overboiling the sugar may be taken off the fire while being tested. Also, to prevent mishap, it is not well to fill saucepan used for making the candy more than half full. Let it be remarked that the honey is to be boiled thoroughly, and not merely mixed with the sugar. I have toiled a good deal in trying to find out this recipe,

my intention being to make a bee candy which, while approaching as nearly as possible to the natural food, would have the additional advantage of being medicated, and not inducing the bees to rob, as it so frequently happens when fed in autumn or early spring with honey or syrup. Stocks have been fed entirely on this candy during the whole winter, and thanks to it, I have not lost a single colony during all the time I have been in charge of the Abbey apiary. It is also very good for feeding queen and attendants in mailing cages, as I have tested it scores of times for this purpose without a single complaint.



THE BUMBLEBEE

You better not fool with a Bumble-bee!
 Ef you don't think they can sting—you'll see!
 They're lazy to look at, an' kindo' go
 Buzzin' an' hummin' aroun' so slow,
 An' act so slouchy an' all fagged out,
 Danglin' their legs as they drone about
 The hollyhawks 'at they can't climb in
 'thoutist atumble-un out agin!

Wunst I watched one climb clean 'way
 In a jim'son-blossom, I did, one day,—
 An' Ist grabbed it—an' nen let go—
 An' "Oooh-oo! Honey; I told ye so!"
 Says the Raggedy Man; an' he ist run,
 An' pullt out the singer and don't laugh none,
 An' say: "They has ben folks, I guess
 'At thought I wuz predjudust, more er less,—
 Yit I still muntain 'at a Bumblebee
 Wears out his welcome too quick fer me!"

—James Whitcomb Riley.

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Devoted to the Interests of Bee-keepers

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Editor, W. J. Craig.

May, 1907.

THE EDITOR'S CORNER.

When prices are good, and markets are comparatively clear of a commodity, there is always the greatest temptation to adulterate and substitute. Honey is no exception to the rule, and we may expect more than the usual amount of honey mixtures and honey syrups offered, just on account of present conditions. A reader sent the following enquiries, which we have taken the liberty of submitting to the Inland Revenue Department, Ottawa, and have received from Mr. A. McGill the reply attached, to which we would very especially draw the attention of our readers:

"Please explain the Canadian law as it relates to the adulteration of honey and other articles coming into competition with it.

2. Is there any difference between glucose and corn syrup, which I see is still freely sold in our stores?

3. When I was in a Manitoba town last fall I found in a leading grocery store some jars labelled "Finest Clover Honey. Warranted Pure." The stuff was exactly the color of buckwheat honey and mostly candied, with a quantity of this stuff on top, and was put up by an Ontario firm. I took a sample of it, but unfortunately I forgot to bring the jar with label. What should be done to bring the parties to justice, as I still have the sample?"

Editor "Canadian Bee Journal,"
Brantford, Ont.:

Dear Sir,—Your letter of the 9th inst., addressed to Mr. Macfarlane, has been

handed to me. Replying to your queries, I would remark:

An amendment to the Adulteration Act became law in April, 1896, specially penalizing the feeding of sugar to bees, for the purpose of enabling them to make honey therefrom; and further providing that no imitation of honey, or any substitute for honey, shall be manufactured or sold or offered for sale in Canada.

This Act is as stringent, in regard to the manufacturer of surrogate honey, as is the Butter Act of 1903 with regard to surrogate butter—oleomargarine, butterine, process or renovated butter, etc.

This statute should make it easy to prevent artificial honeys being made or sold. Perhaps the adoption of a positive definition of honey might strengthen the position of the bee-keeper.

In the United States a legal definition exists, since 1906, as follows:

1. "Honey is the nectar and saccharine exudations of plants, gathered, modified and stored in the comb by honey-bees (*Apis mellifica* and *Apis dorsata*); is loevo-rotatory, contains not more than twenty-five (25 per cent of water, not more than twenty-five-hundredths (0.25) per cent of ash, and not more than eight (8 per cent of sucrose.

2. Comb-honey is honey contained in the cells of the comb.

3. Extracted honey is honey which has been separated from the incrustated comb by centrifugal force, or gravity.

4. Strained honey is honey removed from the crushed comb, by straining or other means."

Second—Glucose syrup and corn syrup are practically identical.

Third—If the observer of the case cited will furnish particulars to this office, I shall endeavor to have samples of the article in question collected in legal manner by one of our food inspectors.

Honey will very shortly be made the subject of careful examination in this laboratory. Orders are already issued for the collection of about 250 samples. Any information as to special localities will be welcomed by me, and acted on, as far as possible.

I may say that I am decidedly of the

opinion that or other article name of "honey" no matter where it appears on the label stop to; and any ambition to place in foreign place in Canadian market for themselves.

Y

In our last issue of the "Editorial Corner" of the "Bee Journal" on "Brood Diseases" I mentioned the Department at White's design, known as "black brood." It is a foul brood. It is a disease which appears in the brood cells. Dear Mr. Root, Editor of the "Bee Journal," "European foul brood," is of recent origin. I should have made an exception of the high standing of Mr. Cowan, but in the paper on "The Journal of the American Bee Society, 1885," published its "black brood" does the copy type call "American" and who really did the sample used which does not appear to be the copy type of the Mr. Cowan says "forms of foul brood" and one " * * * " any of the scientific which I am familiar with these we are to look for do I know of a belief that the two varieties of "foul brood" are "specific bacillus." Attention is also given to the fact that American foul brood is a more general occurrence than European foul brood, a fact

opinion that the selling of a glucose, or other artificial product, under the name of "honey" or "Canadian honey," no matter what explanation may appear on the label, ought to be put a stop to; and if Canadian honey has any ambition to secure a reputable place in foreign markets, it is time for Canadian bee-men to bestir themselves.

Yours truly,

A. McGill,
Acting Chief Analyst.

In our last issue we noted the comment of the Editor of the "British Bee Journal" on Dr. Phillips' circular, "Brood Diseases of Bees," issued by the Department at Washington, and Dr. White's designation of the disease known as "black brood" as European foul brood. It is only fair to Dr. Phillips to give his reply to the criticism, which appears in a recent number of "Gleanings in Bee Culture":

Dear Mr. Root—I notice that the writer of the editorial in question says that "European foul brood," or "black brood," is of recent occurrence in England. I should hesitate very much in making exception to a bee-keeper of the high standing of Mr. Thomas Wm. Cowan, but in Cheshire's portion of the paper on "Foul Brood" in the "Journal of the Royal Microscopical Society, 1885," part of the description of "black brood" much better than it does the rosy type of disease which we call "American" foul brood. Cheyne, who really did the work, describes the sample used by him as watery, which does not apply very well to the rosy type of the malady.

Mr. Cowan says: "There are two forms of foul brood, a mild and a virulent one * * * "but we are not told in any of the scientific literature with which I am familiar in which one of these we are to look for *Bacillus alvei*, or do I know of any ground for the belief that the two diseases are but varieties of "foul brood caused by one specific bacillus."

Attention is also drawn to the fact that American foul brood is of much more general occurrence than European foul brood, a fact which no person

will be inclined to call in question.

The possibility that Dr. White has cultivated a non-pathogenic saprophytic bacterium under the supposition that it is the pathogenic bacillus of American foul brood is suggested; but since Dr. White is the first and only bacteriologist who has attempted to investigate the non-pathogenic micro-organisms of the apiary, this may well be considered a criticism of small weight. Other investigators have been satisfied to leave the normal invisible flora of the apiary unknown, and we are justified in the belief that on this very rock have they been shipwrecked. At any rate, Dr. White expresses the belief that the results of Howard, Mackenzie and Harrison are false because they did no work in non-pathogenic forms.

According to Dr. White, *Bacillus larvae* is found universally in diseased larvae of American foul brood, and in not a single instance has he found it in the numerous normal combs which he has examined, nor has it been found on healthy adult bees or in the intestine of normal adults. He assures us that it is universally present in every case of American foul brood examined by him since he first used the media made of bee larvae, and never present in any of the normal material examined. This to a bacteriologist or even to a layman is rather good evidence of the pathogenic nature of the bacillus in question.

The principal criticism in Mr. Cowan's editorial I shall quote: "It appears to us that the most important test has been omitted; and until that has been made successfully our judgment must be suspended. The test we allude to is to prove that the disease can be reproduced in healthy brood from a pure culture of Dr. White's *Bacillus larvae*." This test has never been made by Mr. White, and the desirability of such a test is, of course, evident. The criticism is, however, somewhat misleading, for the reader might be led to the belief that such a test is usually applied in the study of micro-organisms supposed to be pathogenic. I believe I am safe in saying that this test cannot be applied in many cases, nor is it considered necessary in all cases by bacteriologists,

The uniform occurrence of a specific micro-organism in disease, and its uniform absence in normal conditions, while not so absolute as the Koch test referred to, is proof of the greatest value. *Bacillus larvae* grows only in a special medium, and there are many difficulties met with in the preparation of the cultures. A careful reading of Dr. White's paper will show that he specifies merely the fact that *Bacillus larvae* is uniformly present, and lays no claim to having made the test called for by Mr. Cowan. The author further says: "We know that this was done by Mr. Cheshire with *Bacillus alvei*," but we are not told what the effect on the brood was, it being assumed by Mr. Cheshire all through his work that there is but one disease of the brood in the class which he calls "foul brood." I, therefore, cannot agree in the belief that "until this has been done the investigations and the conclusions arrived at are of very little value so far as solving the question is concerned."

While I have undertaken to defend Dr. White's work in the face of Mr. Cowan's criticism, I do not wish to be understood as believing that this whole subject is now complete. On the contrary, I cannot but believe that the field is just opening up, and much more bacteriological work must be done before we are even on a good working basis. We now have a good start, and I hope the work may be continued at no late date.

E. F. Phillips.

Washington, D. C., Feb. 21, 1907.

Spring meeting, Brant County Association in Brantford, Saturday, May 25th, 2 p.m.

Some exceedingly bad reports have come to us since our last issue. Losses of fifty and seventy-five per cent. Poor wintering and the cold late spring has been disastrous. These reports have been received universally from districts where honey-dew was gathered last season. Where fall feeding was done matters are very much better, though bees have not built up well owing to unfavorable weather. Clover in our surrounding district has "heaved" considerably.

We have pleasure in presenting our readers with a picture of Mr. S. D. House, Camillus, N.Y., who favored us



Mr. S. D. HOUSE,
Camillus, N. Y.

with his presence and excellent address at the Brant County Bee-Keepers' Convention in January last.

Mr. House was highly commended at the Brantford convention for stating that "If honey were 'weeping,' the temperature of the room were raised to 100 or 110 degrees and kept there for three days, the honey could be redeemed," *American Bee Journal*, 190. The honey will be redeemed if honey never weeps till it first fills the air-spaces under the cappings, making the comb watery-looking. Will the whiteness of the cappings be restored? Certainly the original appearance will not be restored where there has been actual weeping; but it will be restored if the cappings are removed and the comb is allowed to dry. Miss Wilson's plan to come to the bees until they lick the sections dry—perhaps 15 minutes or so in this should be done before drying the sections.—"Gleanings."

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The Beginner's Page

Department Conducted by E. G. HAND

When the beginner receives his first colony of bees and has them set in their appointed place in his yard, the first thing he wants to know is how to examine them, learn their condition, and make the acquaintance of the queen.

He will read the bee papers quite awhile, perhaps, without finding just what he wants to know. It is written in most of the books on bee-keeping, and a genuine beginner will as likely as not fail to recognize it when he sees it, not only because it is not put all in one place, but is scattered here and there throughout the book, each part of what the beginner is all one thing being headed under its proper heading—the heading of which heading the beginner does not know. He can find it out by looking, sometimes, and sometimes he will find for it is hard for a "grown-up" beekeeper to write without using technical terms, the meaning of which he did not know when he became "green" at the business.

That the colony is likely not in need of examination does not concern their owner. It is not for a beekeeper's advertisement that he wants to get at the hive, but for his own; and there is no doubt he can gain knowledge faster, after having read up the subject of bees and their habits, than to get it first hand—directly from the hive.

Come along, Mr. Beginner, and let us look inside your bee hive that you have been reading and dreaming about all spring, as most other beekeepers have done before you when you first embarked in the business. Light your smoker. Dry planer

shavings, excelsior or some such material is easy to get a start with. If you have planer shavings, put a small handful in the smoker, tip the smoker on its side so the shavings will be in one side of the "barrel" of the smoker and drop a lighted match on them. Pump the bellows gently until the fire gets hold, gradually straightening up the smoker on to its back end so that the fire falls or slides down to the grate with the fuel loose on top. Pump till the flame bursts through, then add more fuel, gradually and slowly pack it in, pumping all the time. The main thing about lighting the smoker is to get a good "bottom" in the fire. This done, you can load it up full, put the nozzle on, and it will keep burning. If not well started it will likely go out. Now put on your veil, tucking it well inside your coat or vest. Also put on your leather mits if you think you need them, and come up to the hive. Don't stand in front of it, ever, if it can be avoided, for it interferes with the flight of the bees. Work from the side of the hive if the combs in it have their end to the entrance, or work from the back if the combs run cross-wise. Before opening the hive blow a little smoke in the entrance, just a small puff or two. Now lift off the cover and set it out of the way. Holding the smoker in one hand, draw back the cloth which covers the frames, smoking lightly if the bees seem inclined to jump around very much. Don't blow smoke down between the comb, and don't smoke after the bees begin to turn tail and set up a roar. Now, to get a comb out,

if there are a great many bees in the hive, it may be necessary to use a little smoke—a very little to make them move away from the ends of the frames where you must catch hold to lift them out. You will need a stout jack-knife, an old chisel, a putty knife, or some such tool to pry the frames loose, as they are likely to be stuck together or to the hive, where they touch it, with propolis. Begin at the frame nearest one side of the hive, first shoving all the frames as near as possible to the other side to make all the space you can get to get it out. Be careful not to let the comb you are lifting rub against the one next to it in the hive, for this will kill some bees, and make the other want to fight. To see what you are doing it is best to stand with your back as much as possible to the sun, so the light will shine on the side of the comb you are looking at. Take a look at this first comb. What does it contain? If a good many bees are on it, the queen may be there. Don't be wondering if every second bee you see is the queen. You will know her all right when you see her. She doesn't look any more like a worker or a drone than a horse looks like a cow. Hold the comb up so the light shines right to the bottoms of the cells. If you see nothing there turn the other side and look at it. If the queen has laid eggs in it they can easily be seen, usually in the cells near the middle of the comb. The eggs look like small pieces of white thread standing on end in the bottoms of the cells. Usually the outside comb will be found to contain either nothing at all or sealed honey carried over from the year before. If the hive be nearly full of bees, this outside comb may contain a considerable amount of new pollen and honey as the bees store these just beyond the "brood nest" or the combs containing brood. It is hardly neces-

sary to describe what brood looks like, as anyone can easily distinguish it from anything else in the hive. The brood occupies the centre of the hive first, and as the number of bees increases, gradually extends to the top and bottom. The upper corners of the combs nearly always contain more or less honey. When looking at the first comb set it on end on the ground, lean the upper end against the wall of something, and take out the first and subsequent ones and examine them the same way. When the second is examined, set it in where you took the first out, set the third in the same place and so on until the last one may be returned to its own place and the others then shoved to their places and the last one put in.

Now, what do you know from what you saw? If you found the two next to the sides of the hive empty with very few bees on them, you know the hive will not be crowded, and the swarming point for at least a month or weeks. If all the combs are either with honey or brood, you know the first rush of honey will be over.

To Find the

queen you want to find for any purpose, open the hive with a little smoke and a little disturbance as possible. Turn the back to the sun, and as you lift the first comb look at the expected one, still in the hive. Look at the one next to it, then the first one on the far side of the hive. If you see a cell like this because the queen runs for the dark when she is on. If she is on the second when you open the hive and a chance of finding her gets around to the queen, don't find her o-

second, stand the first down and lift the second, looking at the third as soon as you can see it. Then examine the second if you haven't seen her on the third. Repeat this process across the hive if you do not find her before you get there. If you miss her, close the hive up and look again in an hour or so, or whenever you have time.

Fenelon Falls, Ont.

CURB DRONE PRODUCTION.

"The man who now allows his bees to rear thousands of useless drones is but one step, a very short step, in advance of the man who keeps his bees in box-hives (or in skeps) I am sure we secure at least three tons of honey"—says E. W. Alexander—"a year more than we should if we allowed our bees to rear drones as some do. In the first place it requires far more food than it does to rear workers, and then when you consider the advantage of having nearly all the bees in a hive producers instead of a large percentage only consumers, it counts much in securing surplus." From Hyll's time on most writers advise the suppression of drones by aiding the bees in slaughtering them, but here we are shown a more excellent way. Prevention is in every way better than cure. Make raids on what drone-cells are in the brood-nest. Cut it out and replace it by worker comb; but, better, don't allow bees to build room for useless drones.

The annual meeting of the York County Bee-keepers' Association will be held in the Council Chamber, Markham, Thursday, May 23rd. Morning session, 10 a.m.; afternoon, 2 p.m. Afternoon meeting will be addressed by P. W. Hodgetts, Secretary Agricultural Associations.

J. L. BYER, Sec.

Mt. Joy, Ont.

and looks like, destroy all the queen cells but one, being sure the one left is a good healthy-looking one. If you find the brood in irregular order—sealed of bees, food, larvae of all sorts and sizes and to the eggs all shuffled together indiscriminately with sometimes two or more eggs in one cell, and here and there a cell with the brood with the capping sticking way up too high because that cell contains a drone larva instead of a worker, you know the queen is playing the sick and is past her usefulness. If drone cells are found in a hive in this condition, the cells being built either on the face of the brood or along the sides or ends of the combs, you know the bees are raising a young one to supersede the old one. In this case hunt out and remove the old queen and cut out all cells but one. You must first be sure it is a case of supering. If, when you first remove the queen you see little flakes of snow-white wax stuck along the sides of the bars of the frames and the tops of the combs, snow-white and bulging, you know the hive needs a super, and you may have contracted the swarm-disease.

To Find the Queen.

When you want to find the queen for any purpose, open the hive, using little smoke and making as little disturbance as possible. Work with the back to the sun, as before mentioned. As you lift out the first comb, look at the exposed side of the queen, still in the hive, before you look at the one in your hands. Turn the first one around and look at the far side of it first. You will like this because the queen always runs for the darkest side of the comb she is on. If she happens to be on the second when you lift the first comb, and a chance of seeing her before she gets around to the dark side, you don't find her on the first or

Comb Honey Production

(By W. A. Ellis, Victoria, Australia.)

The following on the production of comb honey was awarded first prize among a number written on the same subject for the "Australasian Bee-keeper." The writer evidently favors a hive after the Heddon or divisible brood-chamber pattern lately discussed in these pages. The methods suggested are worthy of comparison with those followed in our own country:

There are many bee-keepers in Australia who could not produce sectional comb honey profitably, for to get anything like a yield you want a very good locality, hives that tend to keep down the swarming fever, and plenty of time and patience. As regards the former, experience will teach where to find a good area of blossoms. The hive that is most favored is the Bolton, consisting of two 5 $\frac{1}{4}$ -inch bodies, each containing eight closed end frames, and a special follower which can be pressed up tight against the frames by the two metal screws in the side of the body, and this allows of them being inverted. On top of these two bodies forming the brood-chamber put a slatted honey-board for preference, and then the section-crate, or if for extracted honey, supers containing frames. A good strong colony is the first step in the direction of comb honey; the hive should be boiling over with bees, just when the honey-flow commences. Having got the brood-chamber just about full of bees, brood and honey, invert the bodies, place the honey-board on, and on top of it a super on shallow extracting frames

(empty combs, if you have any spare). Now those combs in the brood-chamber not attached to the bottom bars of the frames have no support when the hive is inverted, and the bees will attach them to the bars, while for the time being are on top, thus increasing the capacity and strengthening the combs. Any honey that is along the top of the brood-nest will now be in the middle, and this is an unnatural a place for it that the bees will remove it, and, having no other place to put it, carry it to the surplus chamber, thereby giving the bees more room for laying. The reason for putting the super of frames on both sides of the sections is to get the bees into the habit of going above, for if the sections were put on first the bees would be loath to enter them, perhaps not at all, but probably swarming in a few days. When they have been well started in the super of frames raise it up and place the section-crate under it, removing the super when the bees have begun to work in the sections. This unfinished super will be well for starting another colony. This method more comb honey is produced than if the sections were put straight away; you have the extra honey as well, and not nearly the loss caused by swarming.

Never let the bees get in the habit of hanging around the entrance of the hive from the midday sun. To make the entrance larger, which will decrease the desire to swarm, the bees take to the sections more

than others, and the producer will do these for breeding. Comb-honey produces more than the bees, swarm the chance of security during the swarming the brood-chamber is inverted once a week to be destroyed, as they started, as the young bees will attach them to the bars, while for the time being are on top, thus increasing the capacity and strengthening the combs. Any honey that is along the top of the brood-nest will now be in the middle, and this is an unnatural a place for it that the bees will remove it, and, having no other place to put it, carry it to the surplus chamber, thereby giving the bees more room for laying. The reason for putting the super of frames on both sides of the sections is to get the bees into the habit of going above, for if the sections were put on first the bees would be loath to enter them, perhaps not at all, but probably swarming in a few days. When they have been well started in the super of frames raise it up and place the section-crate under it, removing the super when the bees have begun to work in the sections. This unfinished super will be well for starting another colony. This method more comb honey is produced than if the sections were put straight away; you have the extra honey as well, and not nearly the loss caused by swarming.

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Now, when the first nearly complete another bene have about the honey-flow ceases, their amount of finishing, and next hardly a bee left remove without having taken the your honey-room upgrading them; the be sufficient, come up to No. 1 the hives to be the end of season next year, to be making the bees aloft 1 Grade.—All w

than others, and the comb-honey producer will do well to select the best of these for breeding purposes.

Comb-honey is far more trouble to produce than extracted, on account of the bees swarming, which spoils the chance of securing anything like a field during the season. The bodies

forming the brood-nest should be inverted once a week, causing all queen-cells to be destroyed, should there be any started, as well as giving the queen more room for laying, for when the young bees near the top of the brood-chamber have emerged from their cells, instead of the queen laying them, honey is stored there, thus giving her less space, and by inverting this honey divides the brood and is

to be removed, when eggs will take its place. Should a queen prove too vigorous for two bodies, and the colony shows a desire to swarm, put a third body between the other two.

They should have either combs or full sheets of foundation, and instead of swarming these are filled with brood. Now, when the first crate or section is nearly completed, raise it up and place another beneath, and so on till you have about three or four on, or when the honey-flow ceases. When you have a fair amount of finished sections, the best way to take them off is by placing

a bee-escape under them in the evening, and next morning there will be hardly a bee left above, and you can remove without any trouble.

Having taken the crates of sections from your honey-room, the time comes for grading them; two grades will, as a rule, be sufficient, and any that do not come up to No. 2 should be placed in the hives to be completed, or if at the end of season, keep them over till next year, to be used as bait in getting the bees aloft.

No. 1 Grade.—All well-filled sections,

comb and honey white in appearance and evenly capped.

No. 2 Grade.—Not so good as No. 1, darker color, not so well-filled or evenly capped.

All sections should be well scraped clean, as nothing spoils their sale like propolis, etc., sticking round the edges of them.

After this the next thing is marketing, and the bee-keeper cannot do better than retail it himself, thus gaining the profits of the middle man, which I think only the bee-keeper is entitled to, and when the market falls, hold off till the price increases again, for honey is an article that keeps well.

Once you have worked up a good local trade, you will have no need to study the market, but you will always be able to get a reasonable price. If every bee-keeper would hold off when the market was poor, there would be no honey-gluts, but the price would increase for honey wonderfully, while to-day it is sold at prices far below its real worth. Any man that has a little time at his disposal, and plenty of "push," will have no trouble to build up a local trade, and it is surprising the number of people that will buy honey if they know that it is pure. They will not grumble at the price as a rule, even if it is a little above the market prices. Pure honey, when once taken, is always used, and people only need to be asked to buy it; go to them first, and afterwards they will be coming to you with larger orders." W. A. Ellis.

Tatura, Victoria, Australia.

MEDICAL.

For rheumatism take a bee,

Then pet it;

The sting is recommended, and

You bet it

Will either cure the pain or you'll

Forget it.

NEW LIGHT ON BROOD DISEASES.

A report has just been issued of the investigations made during 1905 in the Imperial Biological Institute of Dahlem, near Berlin. In this report Nos. 2 and 25 are of special interest to bee-keepers, as they treat of the experiments made on the diseases of brood. The first treats of foul brood of bees, and the last of what has been called "Aspergillusmykose" of bees.

The Institute received 119 samples of diseased brood, and 112 of them were found to be foul brood. It is stated that bee-keepers suppose that *Bacillus alvei* is the prime cause of foul brood. The investigations of the Institute tend to show that this is not absolutely correct, and that other bacteria play an important part in the development of the disease. In other words, of the 112 samples of foul brood examined, *Bacillus alvei* was found only in 13, or in round numbers in one sample out of every nine. This unexpected result gave cause for considerable reflection and experiment. Food containing the bacilli mentioned above was given to healthy colonies, and foul brood failed to break out; nor was any effect produced when bacilli were brought in direct contact with the larvae and nymphs in the cells.

From this it would appear that *Bacillus alvei* is of less importance than has hitherto been attached to it. Not only so, but in every case of foul brood another microbe has been found, sometimes in company with *Bacillus alvei*; but all attempts to produce the disease with it failed; therefore it cannot be considered as playing any part in its production.

In continuing the investigations a different microbe, a Spirochoete belonging to an altogether different family of the higher bacteria, was found.

It is spiral in form, is not motile, and appeared in all the samples of foul brood, as well as in the dried mummies and scales, even when these were several years old.

According to the report the searches were to be continued in 1906, and it will be interesting to know if this hitherto unknown organism has anything to do with the disease causing so much damage to the bee industry. In any case the results tend to show that *Bacillus alvei* is not the cause of foul brood, and, when present, plays only a subordinate part.

No. 25 treats of what Germans call "Steinbrut," or mummified brood. When this disease the brood becomes hardened and brittle, and, what is important, adult bees are also affected. It is due to a microbe called *Aspergillus flavus*, found in abundance on affected brood and also on the bodies of adult bees. Inoculation experiments on rabbits and fowls not only produced the disease, but caused their death from which it is inferred that the microbe is the true cause of the disease in question. We would point out that too much reliance should not be placed on this, as we know *Aspergillus flavus* is pathogenic to bits, whereas it is saprophytic on The disease seems to be epidemic in some districts of Germany.

Ask the average child whether he will have honey alone on his bread or butter alone, and almost invariably he will answer: "Honey." Freedom are the needs or the taste of the child properly consulted. The child craves fat meat; the child likes to eat honey; it is a wholesome food for him, and is not expensive. Should he not have it?

will be glad to see the bees and anything to do with the disease causing so much damage to the bee industry. In any case the results tend to show that *Bacillus alvei* is not the cause of foul brood, and, when present, plays only a subordinate part. In when the surplus is taken out, the outlook was very bright. In the morning of April 1st the bees were not a day favored, so that when the bees were put into the weeks later on, they were starved and starved, and the strong ones had to be put into the weeks later on. Inoculation experiments were put into the weeks later on, and even then it was found that the disease did not appear. We would point out that those that will not be placed on this, as we know *Aspergillus flavus* is pathogenic to bits, whereas it is saprophytic on The disease seems to be epidemic in some districts of Germany. That were those that were removed from the pollen opened. G

The Outlook

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G. A. Deadman.

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Out of nearly 300, only one was
outright. I noticed two queen-
and may have a few weak, but
of them are very strong and have
of stores. The cellar is a quar-
a mile away from the yard, and
have to be loaded on a spring
and hauled. With three as-

sistants, I started at 8.30 and had 175
out and on their stands by 12 o'clock.
Next day (Tuesday) they had a nice
fly, but not excessive. The hauling is
a stimulant, I believe. They uncap
and seem to rear brood faster than
when quietly carried out.

H. G. Sibbald.

Toronto, April 25.

* * *

Have just finished setting bees out
of cellar. Two dead out of 178. Nearly
all in fine condition, particularly ten-
frame hives. This is the first really
fine day this spring. A. A. Ferrier.

Renfrew, April 23.

* * *

The latest spring here since I began
bee-keeping eleven years ago; no pol-
len yet. Bees had last fly November
5th. Was waiting for another before
putting them away, but had to put
them in the cellar without it, Decem-
ber 1st. Brood-rearing had stopped
two months earlier than usual. With
too low temperature and long confine-
ment, have experienced the worst loss
since I started. F. E. White.

Invermay, Ont.

German Honey Tea—A cup of hot
water with one or two tablespoonfuls
of extracted honey—is a pleasing and
wholesome drink.

In bronchitis great relief may be ob-
tained by taking a small quantity at
frequent intervals.

The regular use of it is said to aid
digestion and to strengthen the nerves,
as a gentle laxative and purifier of
the blood, no better medicine can be
taken, while its peculiar acid property
has caused it to be generally recog-
nized as a valuable medicine in cases
of sore throat, indeed, for coughs, colds,
and all affections of the throat, it is
universally acknowledged to be the
best of remedies.

SHALL WE USE SUGAR IN FEEDING OUR BEES ?

If the world were perfectly honest, if not a shadow of suspicion rested upon the honesty of any man of us, then could we answer yes, unhesitatingly to the question, Shall we use sugar in feeding our bees? We could then be sure that if any sugar at all reached the honey to be sold it would be small in amount, so small that neither you or I would hesitate an instant to class it as pure honey. We should be unable to tell by taste or by other test that a possible one per cent of the honey was not honey.

But since many men are dishonest, since men will cheat, since they will face a barrel of apples, since they will try to hide the poor sections in the middle of a case, since they will increase the output of their honey by the aid of sugar-feeding, since all these things and many more like unto them are true then must we hesitate to give an unqualified yes to the question asked above. Yet I, for one, find it difficult to say no to the question. In my own case I do not hesitate to feed sugar. I am confident that my reputation for square deal raises my honey above the suspicion of impurity. Still, I am not able to say that my own feeding is not helping to keep down the price and consumption of honey the country over. And so the answer no hovers in my mind about as uncertain in alighting as the other answer.

That we must at times feed our bees is beyond argument, it is, occasionally feed or lose the bees. No one will say no to that need, but with the acknowledgment of the right to feed comes the denial of the right to feed in a way which will cause suspicion.

To avoid suspicion we can feed honey; but for some of us to feed honey would mean a cutting down of

the income from the bees to the extent of putting us out of the business. Moreover, there is always the lurking danger of foul brood in feeding strange honey to our bees. Then comes the question, Is it possible to feed sugar in a way that will avoid all suspicion? It has been suggested that we color the sugar syrup. This will protect the white-honey man I came near saying (the white honey-man) but still leaves the dark amber and buckwheat honey under the ban of suspicion. Alexander feeds sugar by the barrel and buckwheat honey by the barrels. De old Langstroth said that he liked buckwheat honey diluted with white sugar syrup. Is this the reason that the Alexander buckwheat honey is so popular?

No, coloring the syrup will not overcome the difficulty entirely. Yet it would go far toward placing our delicious white honeys above the suspicion which now rests upon them. The truth is that many people, old people especially, who are prone to express themselves decidedly, have firmly fixed in their minds the honey which comes from the box-hive, a honey of dark, generally a blend, seldom white. They look askance upon a section of snowy comb containing honey of the delicacy of flavor almost unknown "taken-up honey."

The whole subject is fraught with difficulty, but we can surely use more care, and we can surely parade sugar feeding less. I cannot, for one, prove of the parading of stimulants feeding when such feeding is done with sugar. I think that such advertising is unnecessary, and I believe moreover, that this variety of sugar-feeding is scarcely legitimate. Again, I must disapprove of wholesale feeding before, during, or just following the honey-flow. It may be easier to work about the apiary during a dear

honey, extracting sugar, each process is condemned.

Why should the condemned, advertising for stimulation be condemned though it is right to be in the eyes of customers. Not that bees make honey to see a man feed honey simultaneously any an observer conclusion that the honey out of the report. The night-fall, the views of the observer. The same wholesale feeding; hence I say make apiarian work get their colonies feed with diluted at all.

The only legitimate honey-producing comes through the winter of dearth till again. Even this comes to the brings it about management. It does ultimately, but the are one.

As to feeding to the rearing, that I think it perfectly clear in bees to the sweet into the clear in bees avoid honey-crop in the following such a wholesale way already create a cycle behooves every subject to see to it

honey, extracting for instance, by feeding sugar syrup wholesale. But such process is not necessary; it should be condemned.

Why should the last mentioned plan be condemned, and why should sugar-feeding for stimulation of brood-rearing be condemned? For this reason: though it is right in our eyes, it never can be in the eyes of the world, our customers. Not a few people believe that bees make honey, even in winter. To see a man feeding syrup and taking of honey simultaneously would cause any an observer to draw the natural conclusion that the bees were making honey out of the syrup, and he would report. The apiarist might argue that night-fall, the motion of the eyes of the observer would decide the date. The same would be true of wholesale feeding for stimulative purposes: hence I say, let all who feed to make apiarian work easier, or who feed to get their colonies ready for the harvest, feed with diluted honey else not at all.

The only legitimate use of sugar in honey-producing apiary is to get the bees through the winter or through a season of dearth till the flowers come again. Even this sort of feeding seldom comes to the bee-keeper except when he brings it about by his system of management. It does sometimes come ultimately, but the visit can be made rarely one.

As to feeding to produce bees, or in rearing, that is another thing. I think it perfectly legitimate for a bee-keeper in bees to turn sugar or any other sweet into bees, but let that bee-keeper in bees avoid trying to harvest honey-crop in the same apiary where he is following such practice of feeding in a wholesale way. It would most probably create a cloud otherwise.

It behooves every writer upon this subject to see to it that he leaves the

impression upon the reader's mind always that the sugar-feeding is done of a necessity and that it is never done at a time or in a manner as to contaminate the honey-crop. This rule, I regret to say, is too seldom followed. It should be followed even at the expense of tiresome monotony to the bee-keeping reader, since we can never know when the other reader will take up the piece of writing, read it (mis)interpret it and parade it in clothing of his own make.

Let me close this with this exhortation: If we must at any time feed sugar syrup to our bees, and if we feel that we must tell about it in the papers, let us see that we make clear to the dullest reader that this sugar is fed to the bees at a time when honey is not being harvested and in such amount that the bees will use it up as food to live upon till the flowers come from which they can get food for themselves and honey for their owner. Such a course is possible, and seems to me imperative.—Allen Lathem, in American Bee-Keeper.

HONEY VINEGAR.

Ordinarily the process of vinegar-making consists of two distinct steps. In the first, sugar in some form is by fermentation, changed into alcohol. In the second, this alcohol is by a similar fermentation changed into acetic acid. The alcohol fermentation must always precede the acetic, and should be allowed to become complete before the acetic fermentation begins. They may be carried on together, but it is usually at both the expense of time and quality, as the presence of acetic acid in even a small quantity greatly retards the alcoholic fermentation and sometimes a degenerative fermentation sets in and spoils the entire product.

Accordingly, your barrel should be one that has never contained vinegar.

SHELTERED LOCATION MAY DOUBLE THE PROFITS OF AN APIARY.

It takes years and decades to learn some lessons in bee-keeping, and some are not so situated that they can ever settle some questions by means of comparison or other experimentation. One of the things that I was slow to learn was that there is a great advantage in having an apiary located in a sheltered place. One occupying such a location, for instance, as one of the little pockets so common in the hill country of Southern Wisconsin may work on for years, not realizing the immense advantage he has over his neighbor whose apiary is situated on the summit of a windy ridge, perhaps only a few miles distant.

Some valley situations are not good account of a draught causing a passage of wind along certain channels. But a pocket opening into a sheltered valley, and having its opening to the south, makes a very fine place for the location of an apiary. Then, if a sheltered spot furnishes natural shelter in plenty for early spring, and water is handy, the colonies are nearly sure to build up rapidly, even if they are only mere nuclei at the close of winter. I know, for I kept bees in such a place for 17 years, and only realized the advantage after I had established another yard in a place not favored for shelter, but having just good sources of honey during the late clover and basswood season. The apiary situated on the high and unprotected ground never increased. The other increased so rapidly that it almost bothered me to know how to keep down increase or what to do with surplus stock.

There is one balance that I have been unable to strike, however, and that is to know just how much of the prosperity in the sheltered location was due to the fact that it furnished honey

from the autumn flowers, having much low ground on the field, while the other yard lacked in this respect, and the colonies were very apt to be idle during some weeks preceding the end of the season.

In a level country the best means of providing protection is of course, by planting groves or belts of trees, or leaving such portion of the natural forest as will be necessary. Even with these, tight-board fences are an advantage as furnishing nearby protection and making sun-reflectors.

In our Wisconsin bee-keepers' convention last week, President France advised the members to protect their colonies by wrapping each hive with tarred paper as soon as it was removed from the cellar. He said such protected hives would have double the amount of brood in them that the unprotected would when warm weather came. A good many will be likely to try this plan, but I do not believe any method of hive protection will compensate for the lack of yard protection. It is after the bee leaves the cluster and the hive entrance that it needs the protection of sheltering trees, fences or wind-breaks and the full benefit of the sun's rays.

At our convention a good deal was said about making experiments along certain lines. It seems to me it would be a fine thing to have this matter of protection so thoroughly tested that it could be told what per cent of advantage there is in having a protected yard as compared with a bleak location.

I am so fortunate at present as to have an apiary situated on the north bank of a large river, where the sun beats into the sheltered nook or gully in which the apiary is situated, and where the bees have ready access to acres and acres of willow, soft maple, elm and other early pollen-bearing trees. For a drinking-place they will go to the edge of the river where the sun shines down on the warm sands and is reflected from the face of a great rocky hillside. If this apiary proves to be as prolific in brood-rearing as my old yard, I expect to try the experiment of producing bees for sale.—Harry Lathrope, in "Bee-keepers' Review."

A Diamond Point Fountain Pen

Free as a Premium



Nothing is more acceptable as a gift at any season than a good fountain pen. The above cut illustrates a pen that is fully guaranteed to us and that we can therefore warrant to give satisfaction to anyone receiving it from us. We are giving it free to all new subscribers to the Canadian Bee Journal who remit us the regular subscription rate of \$1, for one year and to all old subscribers who send us a two year renewal for \$2.00 in advance.



HAM & NOTT CO.

Limited, Publishers
Brantford, Canada



Comb Foundation

BEFORE getting your foundation made up write us for samples and prices. We guarantee satisfaction. Give us a trial. Wax taken in payment for making up. We handle the Ham & Nott Co's bee goods at factory prices.

JOHN NEWTON
Thamesford, Ont.

Italian Bees and Queens

THE BEST IN THE LAND

During the summer of 1901 I requeened over two thirds of my home apiary (some 200 colonies) with fine young queens raised on "Bow Park" and am offering a limited number of these colonies for sale for May delivery. Orders for Italian queens will be filled in rotation as soon as the season opens. Write for circular. You will see what other buyers have to say about the stock.

A Price List of Queens

UNTESTED—Each	.....	\$ 1.00
Six for	.....	5.00
Twelve for	.....	9.00
TESTED—Each	.....	1.50
Six for	.....	8.00
Twelve for	.....	15.00
Two Frame Nuclei with Queen	.....	3.00
Full Colonies Italian Bees	.....	7.00

F. P. ADAMS.

"Bow Park," Brantford, Ont.