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West Maitland, N.S.W.: E. Tipper, January 31, 1911

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THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

Published by E. TIPPER, West Maitland

Circulated in all the Australian Colonies, New Zealand, & Cape of Good Hope.

VOL. 19. No. 10.

JANUARY 31, 1911.

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"The Australian Bee Bulletin."

A Monthly Journal devoted to Beekeeping.

Circulated throughout the Commonwealth of Australia,—New Zealand & Cape of Good Hope.

Published by : E. TIPPER, West Maitland, N.S.W. Aus.

Editor: W. ABRAM, Beecroft

MAITLAND, N.S.W.—JAN. 31, 1911.

EDITORIAL.

The Honey Crop.

The honey flow has every prospect of continuation, and how the bees enjoy the fun of gathering the nectar; so much so that broodrearing is being considerably retarded, most cells, as soon as bees hatch, are being filled with honey. It is some years since there was such a plentiful crop, at least in the coastal district, but many other parts participate, and the opinion is now freely expressed that the supply must exceed the demand, as far as local or State requirements are concerned. The price has gone down very much already, and what if it goes lower still? Plentiful rain at the middle of the month has refreshed all vegetation considerably, and the weather has been all that can be desired for honey secretion.

A notable fact presents itself to me. The bees, in spite of hard graft, gathering stores and lesser breeding than when only a small surplus can be gathered; they nevertheless are very strong, there is no trouble to get them to work in supers. But they won't swarm. Only two hives issued swarms after each had three supers filled. And big swarm they were, requiring supers on at the start.

Yes, it is a busy time and a pleasant one to see all going so well, as the numerous letters from all parts indicate. If now a fair price could be obtained for the honey, beekeepers will reap a long-deserved reward, though some say: "Honey! honey! everywhere honey. To much honey."

My principal attention is directed to the rearing of queens; but honey is also quite welcome. Well, just now both are no trouble to attain. In the earlier part of the season, with constant changes of weather, the loss of 50 per cent. of young queens was not infrequent. Thus weather conditions influence the bees in their actions.

Observations.

The ordinary American hive does not admit of observing the bees and their actions inside the hive—a hive having glass sides suits that purpose better. My hives have each a glass slide, and this enables me to observe many things that otherwise would not be noticed. In my boyhood I had several such hives already and spent many an hour watching the bees. What I now wish to draw attention to is this: Often a number of bees are seen to make comical movements resembling in a way a sort of dance. These bees just put their hind legs fairly close together, stretch them straight, thus lifting the hind part of

their body higher up; then they commence a wobbling motion of their body from side to side, now slow, now quick, and then some make quick turns either round in a circle or around other bees. When these dancers have had their full they become as quiet as others; but some others start the fun. It appears to be a joyous occupation, but I am unable to ascertain the reason for their action. Then again, I have seen a few bees running along like urgent messengers and tipping some other bees with their feelers, just as if they had some very important message to deliver. I have seen ants do the same. But what does it mean? Can anyone give an explanation Or is their language, etc., a sealed book to mankind.

Another way some bees of some hives have is the planing motion in front of the hive; forward and backward they move like a joiner planing, their mouth piece just on the board. Not the bees of every hive do it. What is the object?

This reminds me of another matter. I sold a queen to a party some ten miles from here. The queen was safely introduced in a rather weak hive, and a few days after the queen's release she and all the bees cleared out, never to return there. When the owner discovered the loss he asserted that the queen was trained to come back to my farm, taking the bees with her. Now, who will say that bees are not smart and intelligent and can be made to do all sorts of things?

These few points cited may induce the readers to propound them and let us know of others. Constant observation brings to light many otherwise obscure things, and enlightenment thereon is the aim of bee study. Every beekeeper is invited to make his observations public in the "A.B.B." Surely the harvesting of the bees' product is not the sole occu-

pation of everyone keeping bees. The study of their ways and habits is equally important.

Nosema Apis.

Specimens of diseased bees, recently submitted to the Bureau of Microbiology, have revealed the presence of the parasite *Nosema apis* (Zander). It is, therefore, henceforth advisable that any beekeeper who finds the bees of any hive ailing to at once submit specimens to the Director of the Bureau of Microbiology, Sydney, in order to ascertain the cause.

Beekkeepers who raise large numbers of sections comb honey will act to their advantage if they communicate with me (W. Abram, Beecroft); also soliciting a sample of extracted honey and of beeswax.

The Royal Agricultural Show will be held in April, and as the honey season is good there should be a large representation of bee products from all parts of the State.

The New South Wales and Commonwealth Beekeepers' Union.

At a meeting of the Executive on the 9th inst., correspondence in reference to honey export was read and dealt with, and it was decided that the Secretary inform those availing themselves of this opportunity to forward the honey to Messrs. Hawken and Vance by the 25th inst. One member has informed the President that he going to send about a ton, as he finds the local market already glutted and considers export the only means of relief here. It is intended that two members of the Executive inspect the shipment and make a record of the brands and other marks. At the same time it was urged to advise senders to keep a sample of honey for himself and

to forward another sample to the Executive to be a guide and reference for the future. Some members regretted being unable to participate in the present scheme as their crop is not ready for harvest, but all expect a good surplus.

Several other matters were dealt with, the subject matter of which will be announced later on.

Correspondence.

Parkes,
29/12/'10.

W. Abram, Beecroft.

Dear Sir,—Bees are improving their condition, and would have been much better but for the sudden and extreme weather changes we have had, delaying breeding and gathering of honey. Last season, through drought conditions in bee forage, I lost over 50 per cent. of stock, but am now building up again. I think the results of this season will be slightly above the average, but not much. Hoping you will have a good season and success for "A.B.B." in the coming year.

Yours etc.

R. SHAW.

* * * *

Sydney,
Jan. 5, 1911.

Mr. W. Abram, Beecroft.

Dear Sir,

Heavy consignments of honey have been reaching the market for some time, and especially since the hot weather set in sales have been slow, and stocks have accumulated in the Street to such an extent that the market is glutted with all descriptions.

A large percentage of these stocks is also dark in color and suitable for manufacturers' purposes only. There has, therefore, been a fall in prices. Best Western is quoted at 3d., Good Northern River 2½d.; Dard and Candied, 1½d.

In the light of the foregoing we would advise that consignments be held back for a period to allow the market to clear.

Yours faithfully,

The Coastal Farmers' Co-operative
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Things that Might be Gained by Co-Operation, Advertising and Business Methods.

E. B. Tyrrell.

Friend Hutchinson: I read your editorial in May "Review," on "Selling the Honey Crop to the Best Advantage," with a great deal of interest. I think you ought to be congratulated on covering the ground so thoroughly. It is certainly worth a careful reading by every progressive beekeeper.

I believe you understand my position on this selling question. I have given the matter a great deal of thought and study, and am satisfied that the only true solution to the whole problem is a proper co-operative effort on the part of the producer. Beekeepers are not so much to blame as at first appears. They are doing the best they know how in a majority of cases, but the trouble is that they know not what to do. The average beekeeper does not produce honey enough to pay to advertise. He is generally located in the country, or in a small town, and when a good yield comes, he has the competition of all the farmer beekeepers around. Their honey is dumped on his market in any condition, at any price. If he decides to ship to the city, the chances are that he knows not where to ship. He instinctively turns to the bee journals and reads the advertisements of the honey buyers. These buyers hear from hundreds of other beekeepers, who, like himself, do not know the condition of the city markets, and the

buyer is thus able to buy at a close figure. The beekeeper cannot say "I will take so much," but does say "what will you give?"

Then we have the beekeeper who is developing a home trade in a retail way. The chances are that he will place his price too low, adopt the wrong package, or use poor selling methods. I believe there are hundreds of beekeepers selling honey in a retail way at a wholesale price. I have done it myself and congratulated myself on the business I was doing. To-day I can do better; but what about that new beekeeper who enters the ranks, and spoils my market through ignorance? I say he should not be criticised, but helped. He should be instructed how to put up his honey, where to sell, and what price he should get. It is poor salesmanship to ask "what will you pay?" instead of saying "the price on this is so much."

Then we come to the advertising question. Many times it has been said that honey should be advertised. But how? The individual beekeeper can not advertise in a general way. Associations have tried it with but poor success. Let us suppose that we have an association that is able to spend several thousands of dollars annually in advertising honey. We will say that I am a city resident with no knowledge of honey. I read the advertisement and am convinced. I go out to buy honey. Let us suppose that I buy some of the stuff that is sometimes put up by packers. Do you suppose that I will believe that advertisement again? Again, suppose that I am satisfied with my first purchase, how much chance have I of getting the same thing again? Don't you see where we stand, brother beekeeper?

The value of the honey we produce amounts to a great deal more than the supplies we use. Now pick up your

bee journal and see the advertisements of beekeepers' supplies. Now tell me, if you can, where I will find any such amount of advertising in the interest of the man who produces the honey? Something is certainly wrong, brother.

The beekeeper and the farmer stand in about the same boat. He produces the crop, and then he says "what will you give?" He gets his money and then wants to buy his supplies and he says "What will you take?" Rather a juggled affair, is it not?

But it is also true that he and he alone is most to blame. No business could be conducted long if conducted as the beekeeper and farmer conduct theirs. The fact that he succeeds at all is proof that he has a business of great possibilities, if conducted along true business principles. He knows how to produce the article; he does not know how to sell it.

The remedy for all this is the proper organization of the producing class. An association of several thousand beekeepers, each paying only one dollar per year, would furnish capital which could hire at least one man to work for them. Markets could be developed; advertising done and the new beekeeper educated.

Some are probably thinking as they read this, that I said that an association could not successfully advertise honey. So I did, if it is done as so far tried. But listen. An association having a man on the job could buy up some of that good honey offered cheap by the man who cannot afford to read a bee journal or belong to an association. This honey could be put up in a suitable package and a particular brand advertised. The city man who reads the advertisement, being convinced, would go and buy that particular brand, and, being satisfied, would come back for more. I know this plan is practical for I have tried it in a small way. Again, solicitors could be put to work, and new customers edu-

cated. Retail stores handling honey could be canvassed during the summer and early fall, and their orders taken for fall delivery. This can be done by an association, but not by an individual. Markets could be found that are now unheard of by the average beekeeper. Don't you believe that? Well, listen again. Last fall I had about 1,700 lbs. of choice extracted honey to offer. I wrote to a certain firm that I thought used honey, but I did not know what kind, what they paid, or how much they used. I quoted them a price in my first letter higher than what I paid, and I paid a half-cent over market price. I received a reply from them that they were under contract for their supply of honey, but might use mine in addition. They asked for sample. This was sent and my reply from them was an order for the whole lot. I then wrote them asking if I might figure with them when they were ready to place their next contract. I did not hear from them for a long time, and then they wrote me that they were ready to place their next contract, and asked for an immediate quotation on 10,000 lbs. Upon investigation I found that they had been using a cheap grade of honey, which was entirely suitable for their use, and had been paying as much, if not more, than what they had paid me for the best. Mr. Beekeeper, this honey was being supplied this firm by the jobber. How much did you get?

No, don't kick the jobber. He is doing just as you are doing, making what he can out of the business, and I don't believe every jobber is getting rich. You are the man to blame. As long as you are willing to let the other fellow do the business, you must expect to pay for it.

Right here I want to say that I believe that within the next ten years, we shall see the beekeepers doing, through assoc-

iation, just what I have outlined above. It is in the air. Producers are organizing everywhere. The West has its farm elevators. Michigan has its farmers' societies and fruit associations. These little efforts are springing up everywhere, and it only means time when they will be merged into one grand whole for the producing class, the class most entitled to the best rewards.—"Review."

BEEKEEPING IN SWITZERLAND.

By the Rev. P. B. Johnson, Wicklow.

Tourists will have observed that at every breakfast table in every Swiss hotel, and at every wayside inn or restaurant, where the traveller asks for "càfé Compét," honey is served, with butter and rolls. Shall I call it "honey"? I fear in 90 per cent. of these places of entertainment it is nothing more than syrup, or glucose slightly flavored. Occasionally one gets really good run honey, but never in sections. Whilst ascending a mountain railway on the slopes of Montreux, overlooking the lake of Geneva, during the month of August, the writer observed a number of hives and determined to take an early opportunity of visiting this Swiss apiary. Here the peasantry all speak French, which was a bar to a free exchange of ideas. Later on, several apiaries were visited on the other side of the Alps in German Switzerland, where another linguistic difficulty was encountered. However, having made sure of sufficient words in the current language to ask very politely if the owner would be kind enough to show me his bees, on no occasion was the request refused. How wonderfully these Swiss economise space; no double ditches, no waste ground, every square foot of the mountain side terraced, and planted, even to the crevices of the walls, with vines, or fruit trees, the lovely gar-

dens of the hotels and parks supplying abundance of flowers of every hue, whilst on the mountain slopes meadows grow, which are neatly shaved with the scythe, two or three crops of hay being harvested each season. But little heather was to be seen on these mountains.

The first apiary visited included upwards of 100 hives, all within a space of about 50 yards by 10, facing south, backed by a mountain railway, two of the arches of which were utilized as a covered apiary, galleries being run from side to side in two rows. These were reached by ladders, and on the galleries stood rows of bee hives. The French Swisse was at work removing frames for extraction. I accompanied him, and learned to my cost that bees in Switzerland can sting even more viciously than in Ireland. Their owner fared no better than did his visitor, except that being arrayed in bee costume, including veil and tight sleeves, the bees did not get up his wrists. Of course he wore no gloves. I observed that his bees appeared similar to our Irish "back bee," nevertheless I inquired, and received an answer which I failed to understand. On inquiring further had he Ligurians or Carniolans, I was brought to other hives and shown both species, but the prevailing strain seemed to be that of the common black bee. The hives in the garden had only a few feet between them, and between each row were lines of pear trees. The hives were larger than those used in Ireland. The frames measured about 2 feet by 1 foot 6 inches; they had full sheets of foundation carefully wired, and were spaced by guides protruding from the sides of the inner walls. There were no supers in use, but sixteen of these large frames gave abundant scope for the energy of each stock. As soon as three or four outside frames were filled, without waiting for them to be capped, they

were withdrawn, the bees brushed off with a flat brush nearly two feet long, the combs put away presumably for extracting, and full sheets of foundation were inserted in the centre of the brood nest. On the top of the frames stood a large box feeder filled with syrup.

How far the honey bee travels is a problem often discussed. It may interest inquirers to know that I observed quite a number of honey bees within a few feet of the actual summit of Rocher de Naye, some 6,700 feet high. There could not have been any hives within a mile and a half down the mountain side, as the bee flies. These bees were working upon the wild flowers and also in the Alpine garden near the summit.

When crossing the Bernese Oberland to the high regions surrounding Grindelwald, straw hives were to be seen, very much larger and more neatly made than our Irish straw skeps. These were placed not infrequently upon the verandah of the Swiss chalets to the number of six or a dozen, and carried wooden supers covered over with sacks; but the larger apiaries were to be found in small houses of wood, especially constructed for the purpose, the hives being practically wooden cupboards in two or three rows one above the other, with runners tacked to the sides of the cupboard to take the lugs of the frames, which were made about 10 inches by 15 inches deep. The dummy was glazed, so that when the cupboard doors were opened one could observe the bees on the back frame. In one such bee house shallow frames were in use above the brood frames, and from them honey was extracted. The plan does not commend itself, as it is obviously necessary to remove all the frames with their bees in order to get at the innermost frame, unless the plan of Simmins' "conqueror hive" be adopted, viz., the chamber containing the frames

itself suspended in runners so that the whole chamber may be drawn out, like a chest of drawers. In the Swiss bee houses there was a space between the hives (or cupboard) and the outside shell of the bee house. This space was packed with dried moss for warmth, the bees leaving and re-entering their home by a very shallow tunnel. These entrances were so close to one another and so much alike that it must be no easy matter for a virgin queen out for her wedding trip to distinguish her own home.

Great profit might have been derived from an interchange of ideas with these Swiss bee-men, but as in this district they spoke German only, the writer could only observe and wonder. One of these bee houses, 21 feet by 8 feet, contained 36 stocks of bees as well as large piles of drawn out comb and appliances of various kinds. In this district fruit trees, white clover, heather, and wild flowers afford abundant pasturage. I was not a little surprised to observe on the fruiterers' stalls in the villages the bees clustering upon the over-ripe grapes as the wasps do upon ripe fruit in our own country. If they served no other useful purpose they certainly fulfilled the functions of a watch dog.

To ascertain the whereabouts of a purveyor of beekeeper's appliances in a German town was no easy matter; however, having got hold of the proper trade designation—"Bienengerate," I found my man, Herr J. M. Schobinger-Huber, of Emmenbrucke, a suburb of Lucerne, but, alas! he could only speak in German; so we made faces at one another and gesticulated, I repeating the word Bienengerate, he replying "Ya, ya." I was brought to his store, where I perceived neatly packed piles of all manner of beekeepers' appliances in great variety. I liked their feeders; I liked their large straw skeps, about 20 inches in diameter,

so neatly and strongly made, with flat top, wooden disks, closely fitting, made to carry two sets of shallow frames; but, above all, I liked the entrance doors for wooden hives and bee houses. These entrances are made of galvanized metal and have a double action; the metal doors which are slotted for ventilation, slide sideways, giving an opening of 8 inches, and the metal sheath in which the doors slide has an upward action of its own, sliding on thumb screws in slots, cut diagonally, so as to be able to vary the depth of the entrance from $\frac{1}{4}$ inch to $\frac{3}{4}$ inch. Thus, in the height of the season, or when hiving a swarm, the door opens 8 inch by $\frac{3}{4}$ inch; and when the honey flow slackens, the entrance can be contracted even to a veritable "one bee space," and yet there is abundant ventilation, even when the doors are absolutely closed for travelling. These entrance doors are made in various sizes, costing (retail) from 20 to 30 cents., about 2d. or 3d. in our money. I much prefer our own make of hive to any I saw on the Continent. I was surprised to find honey, I mean real honey, very expensive in Lucerne. I was asked 2 fr. 50 cents. (2s. 1d.) for a two-pound pot of run honey; but one could buy syrup which has been passed through a bee hive for a third of that sum, and such mixtures are supplied as honey on nearly every hotel breakfast table in Switzerland.—"Irish Bee Journal."

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Making Increase—Best Race of Bees— Getting Worker-Comb.

By G. M. Doolittle.

"I am a beginner in beekeeping, having only 10 colonies. I wish to increase these to 20, and secure what honey I can. I have commenced to read the "American Bee Journal, and am greatly pleased with it. Now I wish you would tell us through its columns how swarms can be managed so they will build mostly worker-combs, what use to make of any drone-comb that may be built, and which race of bees is best to keep. Why I ask about the comb-matter is, that I do not feel able to buy comb foundation to fill the frames with."

The first requisite toward a newly-hived swarm building all or nearly all worker-comb is, that such swarm have a good queen, one which will keep up with the bees in their comb-building, filling all the cells as fast as built with eggs. With such a queen little if any drone-comb will be built, as a newly-hived swarm has no use for drones that year, especially if they have a good queen.

Drone-comb is built for two purposes: To store honey in, when honey is coming in from the fields very rapidly, so that comb is built faster than the queen occupies the cells with eggs; and for the purpose of rearing drones. But as the bees of a swarm having a good queen need no drones the same year, the swarm arrives at its newly-found home, no drone-comb in which to rear drones for their natural purpose is needed, hence where built by such swarm it is generally built for store-comb, and used for drones, the following summer. However, where swarms having queens which have been wintered over build drone-comb, there will be more or less drone-brood reared

in it unless the flow of honey is very profuse. At least, such has been my experience. Now if the swarm is a very large one, and the flow of nectar is very profuse at the time such a swarm is hived, if it is put in a 10-frame Langstroth hive, the bees will build comb faster than the best queen ever reared can fill the cells with eggs, and for this reason all practical apiarists know that if worker-comb is to be built, swarms must be under size, or the brood-chamber be reduced in size, this reduction being offset by plenty of surplus room over a queen-excluder.

Years ago, before comb foundation was known, I used either to return a part of a large swarm to the parent hive, or hive the same on 5 frames with surplus room for 40 pounds of comb honey, if said swarm issued when there was a good flow of nectar from the fields. In either way I succeeded in securing nearly all worker-comb, Where only 5 frames were used, at the end of 10 days these would be filled when the other 5 frames were added, and as the queen was now at her height of egg-laying, these other 5 would be generally filled with worker-comb, especially if the bees succeeded in filling them with comb before any of the brood emerged from the first combs built. Where these last 5 put in were placed in the centre of the hive, between those already built, better success was obtained than if placed at the sides. Of course, dummies must be used in place of frames, where a part of those needed to fill the hive are left out.

If those wishing worker-comb built will always bear in mind the using of only enough bees in the brood-chamber so that comb will not be built faster than the queen can supply it with eggs, they will succeed in accomplishing what they want. Where a large

amount of bees are with a queen, and the flow of nectar is very small, these conditions are secured just as well as with a few bees and a large flow of nectar; and nearly as well by giving of a large amount of surplus room and a small brood-chamber with a large force of bees and a large flow of honey. In other words, the beekeeper must learn to adapt everything to the circumstances under which he finds his colonies and locality, together with the season.

In regard to what to do with drone-comb when built, let me give a bit of experience before the advent of comb foundation:

A large swarm was hived in a full hive, with a strip of worker-comb $\frac{1}{2}$ inch wide attached to the underside of each frame as a "starter". At the end of a week the frames were pretty well filled down with comb, one-third, or nearly so, drone or store comb. This was all cut out, and a few days later, on examining again, I found the frames filled with very little drone-comb. What little there was, I cut out again, when the whole set was completed with not more than two or three hundred of the cells being aught but worker-comb. The drone-comb thus obtained, was cut up and fitted into the surplus honey boxes, using, where necessary, melted wax to fasten them. These boxes were placed over a brood-chamber contracted to 5 frames, in which a large swarm was hived, when, at the end of 12 days I had the boxes all filled with the finest lot of honey I had ever seen up to that time, with the 5 frames below completed with comb, every cell of which was of the worker size, each supplied with brood from the egg to fully capped pupae. In this will be found an illustration how any one can manage independently of foundation.

As to which race of bees it is best to

keep, from my point of view and my location, there can be only one answer, the Italians. Some claim that the blacks will work the best on raspberry and buckwheat bloom, but after the most close watching for a period of 15 years, I failed to find a single instance when, on a single plant or tree upon which, the blacks exceeded the Italians in the least as to nectar-gathering; while at many times the Italians were actually making a gain while the others consumed their stores. For this reason I discarded the blacks entirely, since which, of course, I have had no opportunity to test them.

Before this discarding, to be sure I was right, I sent for queens of the (said to be) large brown bees, and of the industrious grey bee; but a thorough trial of both only proved, as I expected, that each was not different from the black bee of our fathers, a half century ago. Then I tried the Syrians, the Cyprians, the Carniolans and their crosses, together with the much-praised hybrids, produced by the famed breeder of Apis Americana, and found none of them equal to what I had been using, taking everything into consideration. During all of this time of trying all of these bees, "a book account" was kept with each colony, and after a term of years a "summing up" was made, which showed the profit made from my sales of honey from my Italians to be enough greater to force me to part with all other races and varieties of bees.

The black bees, at times would show more dark or buckwheat honey than from the Italians; but my experience was that, at the same time this was being done, the Italians were storing more white honey from the second crop of red clover than the others got from the buckwheat.—"American Bee Journal."

HONEY SAME PRICE NOW AS 20 YEARS AGO.

By A. Richter.

Does the gentleman from Donovan, Ill., (page 55) find a home market for all his honey? If so, he does not produce as large a crop as G. M. Doolittle.

Will any one assume that Mr. D. does not care how he puts his honey on the market? I never had the pleasure of examining the honey of either of the gentleman, but I will wager that any of the large producers, especially Mr. D., markets a better honey than he did 20 years ago. Does he get more for his honey, or less? Why? Not because it's a luxury any more than it was 20 years ago, and if it is, all the more reason why the price should advance, for our labourers indulge themselves more to-day than they did 20 years ago.

If honey is not a food I would like to know what it is.

Honey has many substitutes. There's "Karo." So will candle-grease substitute butter if your taste was cultivated in the North Pole region.

Yes, honey is governed by the amount produced, but can any right-minded student of economics cry over-production in honey, or any other commodity, when half our population go hungry and half clothed?

Eggs may not have sold for 40 or 50 cents a dozen in May, but do now, and did sell for 60 cents, hence Mr. Doolittle scores another mark. There were more than 5 beekeepers to one 20 years ago. What's the result? Each ships his surplus to the commission man in the large cities; he makes the price, because he has no trouble to get all the honey he wants at his price;

while, on the other hand, he gets what he asks from the small buyer, who cannot afford the time to get in touch with the producer, just as the producer cannot afford the time to get in touch with the consumer. We trust to the middle-man, who, like most human beings—power make them selfish. To increase their profit they falsely state the product was not in No. 1 condition, or that it sold for less than it did, until "they kill the goose that laid the golden egg." This is the history of the fruit-growers of California; the Michigan grape-growers; and the growers of flowers in Long Island. What was their remedy? Co-operation!

Would it not look like waking up to have a National Honey-Producers' Association to make your market, and accept only properly cured, honestly packed honey—the Association stamp to be the guarantee of quality?

An example of the honey-producers' question can be answered by the "dairy-men who furnish the Chicago milk and get 2½ cents per quart. The dealers' combine furnishes the selling organization, and gets 7 cents. Naturally dairy-men are beginning to ask themselves Why don't we furnish the selling organization ourselves, since there is where the profit is?"

I scarcely feel it my privilege to enumerate the many successes of co-operation, and take up space in the "American Bee Journal," but let the gentleman from Illinois read co-operation in the Michigan grape-belt, in the Saturday Evening Post of Feb. 19, 1910, or go to the nearest library and get the history and workings of the citrus growers' selling organization, of California. These organizations do the advertising, and are able to engage one gifted that way; advertising men are born, not created, and I think the

ordinary bee-man would waste his money trying. Of course, there are exceptions, and our friend from Illinois may be the exception.

All our magazines and daily papers are discussing the fact that the leading commodities have advanced 50 per cent., and attribute the advance in price to a 50 per cent. increase of money in circulation, claiming the two factors are intimately related, and commodities advance as money becomes more plentiful; but that does not feed our families, nor clothe the children of the wage-earner, who is the first to suffer in a panic, and the last to benefit when prices advance. They wait for capital to be just, until they can stand it no longer, and it ends in riot. That is how co-operation is worked out in Philadelphia just now; but the man who works among bees long loses all desire to be unjust, selfish, or jealous, and I think could do as well as the California fruit-growers.

When one reads over the bee-literature he fails to find any guarding their knowledge or protecting an idea by a patent. How unlike any other profession or avocation! Can we not be proud when we read, "I cheerfully and freely give the principles in this system to all, hoping and believing that the same will prove as efficient in the hands of others as they have with me?" —"American Bee Journal."

THE HONEY-FLOW IN HOLLAND.

Some Observations on it for the Last
Few Years.

By Henri Meyer.

In our bee-calendar the years 1906, '07, and '08 are booked as bad honey-years. The worst of the three was 1907 — a year of very little sunshine, of heavy

rains, thunder and hail storms. In August, 1907, the minimum temperature went down to freezing for several nights. On the best days the maximum temperature scored 50 to 56 degrees Fahrenheit. During the whole month on which our last hope for a satisfactory health was fixed we suffered from cold, rainy, and windy weather. Practically we did not see the sun for weeks. On the heath we lost millions of bees. Many beekeepers who do not look after their colonies before the end of the heath season found more than half of them dead and the rest starving.

On a heath six kilometers from Arnhem I discovered a range of old straw skeps, the property of a beekeeper, residing at Tiel, some forty miles from there, in which not a single bee was living. The poor man's whole possession lay in a state of putrefaction on the bottom.

The end of the season was fit to make the most patient beekeeper rebellious. When the heath had faded we got splendid weather. September and October brought us the long-desired warmth. In the last days of the latter month we noted a temperature of 70 degrees F. in the shade. But it was all in vain. The mild weather in the late fall could not undo the evil done by the February temperature of August. In some parts of our country the bees gathered some nectar and pollen from the "herick," a sort of wild-rape seed (a very troublesome weed) producing a dark-colored honey which is said to be a dangerous winter food.

Thanks to the splendid fall weather, we succeeded in feeding up the weakened colonies with sugar syrup to a reasonable weight. Nevertheless a severe and irregular winter with intermittent periods of strong frost and abnormally soft temperatures caused heavy winter losses. This was especially the case where the

winter food consisted of a syrup from white-beet sugar. A neighbor beekeeper who fed his 30 winter colonies with 300 lbs. of beet sugar lost the small, notwithstanding the winter provision was capped and the condition of the winter seats in the thick-walled Gravenhorst straw hives left nothing to be desired. It seems that the chemicals used to purify the beet sugar must be poisonous to bees.

After this bad winter we got a most promising spring; and with good hope for better success we opened the campaign by migrating with the remainder of our living capital to the fruit-orchards of the Betune. It must be explained that in Holland no profit from beekeeping is possible unless one follows the bloom. In early spring (that is, the first days of April) the beekeepers of the high sand grounds in the Veluwe remove their colonies to the rich clay districts to gather the nectar from hundreds of acres of apples, pears, cherries, and strawberries. Considerable quantities of honey are stored there by the bees when the weather is favorable. On account of our changeable climate, however, no beekeeper should think of extracting that honey. Our bitter experience forbids this. Indeed, after a rich honey-flow of some days a sudden change of the weather may bring frost, snow, and hail. So we must leave the superior spring honey to the brood.

In other parts of our country, in South and North Holland, Zeeland, Utrecht, Friesland, and Groningen, the spring flow consists mainly of the rich rapeseed field and the meadow honey-plant of which *Taraxacum officinale* (dandelion) is the best. In April and May some of meadows, especially those that served a year before for hay-production, are literally covered with a golden carpet of dandelion.

When the fruit-blossom is over, a stagnation in the flow is apparent. The best colonies will then manifest the first symptoms of swarming. For the amateurs of the "multiplicating system," a busy time begins. As a rule the first swarms are drummed off, and if conditions are favorable one single straw-skep colony will produce in a short time from three to four new colonies. In the meantime a new honey-flow is coming on. Some beekeepers remove in the first days of July to the buckwheat-fields; others remain in the clay districts where white clover (is abundant, and others hunt for a good place in the vicinity of lime-trees and acacias.

When the weather is just what we want, there is possibly no stronger honey-yielder than buckwheat. But it must be said there is possibly no other honey-plant that suffers so much from conditions and delicacy. Indeed, buckwheat in Holland will not yield surplus honey unless the weather is not too warm, not too cold, not too dry, not too damp. When the sun shines brightly, buckwheat gives nothing but pollen. When the soil is poor it gives nothing at all. When the soil is rich the farmer would be a fool to sow buckwheat, because other seeds would be far more profitable.

Now, Mr. Editor, last year some farmers grew in the immediate vicinity of my summer stand nearly ten acres of buckwheat. The soil in the environments of my home consists of diluvial sand, which has been cultivated, perhaps, a century. *Phacelia*, Spanish chestnut, and lime trees yield honey profusely on that soil. Fruit-trees, however, give nearly nothing. I had the choice of removing my bees to a good buckwheat district, ten miles from home, or try the buckwheat on my neighbors. I chose the last, while my neighbor beekeeper removed to the buckwheat fields near Lunteren, ten miles from here.

Well, they returned from there with a hundred straw skeps full of well-capped buckwheat honey. And what about my honey crop?

Let me tell you I did not get a teaspoonful from the ten acres, and this, notwithstanding the weather was favorable—not too dry, not too damp, not too hot, not too cold. What was the reason of this phenomenon? I can only guess. The soil in the vicinity of my home consists of sand with a very low ground-water level. You may dig there to a depth of sixty yards before reaching water. In the vicinity of Lunteren, however, the water level is about three yards below the surface. Besides this the sandy soil there is mixed up with old layers of mold, or humus, originating from old swamps. In the soil an element not present in the high sands near my residence.

Mr. Townsend, in his interesting article about the honey resources in Michigan, p. 1104, 1908, says: "I do not include it (buckwheat in the list as a surplus-honey producer; for on the rich soil of Southern Michigan it rarely produces any surplus; and when it does I think it would be when it is sown on a rather poor quality of sandy soil."

The quality of our high sand, however, was of the desired poorness, farmers here doing a lot of "business" with a small quantity of stable manure or compost, which will do for potato and rye culture; and notwithstanding that desired poorness of the sandy soil my buckwheat did not produce any honey. What was the reason? What was the missing substance?

Mr. Editor, I humbly believe that a beekeeper must have a life as long as Methuselah's to know something about beekeeping at the end of his days.—
"Gleanings."

* * * *

THE BALLING OF QUEENS.

Just what causes some bees, sometimes, to ball their queens on the slightest disturbance of the hives has always been a question to me, and this spring the matter has been brought to my mind again in a forcible manner. Owing to the cold, backward weather we have had all through May, it has been a difficult matter to get all the queens clipped and supers put on previous to my going away on some inspection work that was imperative. As a consequence, we have been opening brood nests when the weather was hardly fit for the purpose, and at times when little nectar is coming in.

In 3 or 4 different colonies a few bees were noticed running after the queen, some of them clinging to her, and in one case, after taking all the frames out and looking them over, a glance at the bottom of the hive revealed a ball of bees about as large as a walnut. The queen was released, and after a while let go on a comb on the opposite side of the hive, but yesterday, being at the yard again, I looked at the entrance, and sure enough there was the dead queen. Now this colony was a very gentle one of Carniolans, not at all excitable, and when the hive was open the bees were quietly sitting on the combs, paying very little attention to anything.

Former experiences with queens being balled, has generally, if not always, been noticed in colonies very much excited, with the bees running in every direction, as is common in the blacks or hybrids if they get in a panic from having too much smoke given them, from other causes.

In watching the actions of the few colonies that were so foolishly solicitous of the queen's welfare, I was reminded of that work entitled, "Are

Bees Reflex Machines?" as all the bees in the hive would seem to be actuated by a common desire over which they have no control.

If the queen that was receiving such undue attention on the part of her subjects happened to be on the side of the hive, the same nervous demonstrations on the part of the bees would be seen if she was removed to the opposite side. In brief, the bees seemed to be a unit, so to speak, and in some mysterious manner the same fear of losing their queen seemed common to the whole crowd. How such a condition is made possible among many thousands of bees in a simultaneous manner seems a great mystery, and it would seem that they have some means of communication that we mortals do not understand.

All have noticed the peculiar "home is found" hum when bees are contentedly entering into a hive after having swarmed, and even in a more pronounced manner is the hopeless, queenless hum noticeable in a colony that has just lost its queen—is it possible that they have also a call that sounds a warning to all the bees in the hive that the queen is in danger? It looks very much like it, and more's the pity that they do not take more sensible measures to protect her in her peril, fancied or otherwise, than simply to embrace and smother her to death.

In the event of the queen being released before death ensues, why is it that she is generally useless afterwards, as is nearly always the case, according to what I have learned from others, coupled with a few experiences of my own,—*"American Bee Journal."*

OLD COMB FOUNDATION—WILL BEES WORK IT ?

* * * *

By C. P. Dadant.

I see in the April number of the *"American Bee Journal"* that several ask the above question of Dr. C. C. Miller and he answers it favorably. As I have made experiments on it, I thought best to mention them.

Years ago the statement was made in the bee-papers that comb foundation became worthless with age; that the bees would cut it out. I decided to test this for myself. I had at that time in the upper room of our shop, a box of foundation of an odd size which had been made for a special order, and the one ordering it had countermanded the order. As it was a large size, and we did not wish to work it over or cut it, we had put the box away, hoping to fill an order with it sooner or later. But it had been forgotten and had laid there two full years. I used a sheet of this to make my test.

In June, when the bees were at work and storing some honey, I placed this sheet of foundation in the centre of a colony. Then I took a sheet of fresh-run foundation and placed it also in the centre of the same hive, with only one frame of brood between the two. They were therefore on an equal footing—old and fresh alike.

Two days later I opened the hive and found both sheets drawn and eggs laid in both. This, it seems to me, ought to be sufficient evidence that old foundation is as good as new, even if there might be a few hours of difference in the acceptance of it by the bees.

But now let me explain why old foundation is considered as less readily accepted by the bees, and why the bees sometimes cut holes in it.

When you want Honey Labels send for

Samples to the "Bee Bulletin" Office.

Beeswax has peculiar properties. My readers all know that it becomes so by heating, and finally melts when enough heat is applied. But many do not know that when beeswax has been heated, it retains its flexibility for quite a time, even if the heat is not continued. I may very well compare it to iron, for it may be malleable or brittle according to the manner of rendering it and manipulating it. It has similar properties to those of iron also in this, that time acts upon its malleability. Those of you who have used wire for fences, or for grape-trellis, know that new wire, fresh from the factory, is not brittle unless tempered. But those who have seen the same wire on their fence or on their grape-arbor for 30 years, know also that at the end of that time, even if it is galvanized, the wire is much more brittle. So it is with beeswax. It is more brittle, and therefore harder, when it is old. To give back to iron its ductility, it is necessary to melt it. But not so with beeswax. It takes much less to give it back its flexibility. Heating to blood heat or a little more will render it flexible again.

If we have foundation from the previous years in our hives outside of the cluster, this foundation has become hard and is not attractive to the bees. Neither is old comb, until they have covered it for a few hours and given it their heat. But fresh foundation only a few days old, used by the apiarist, still shows a softness similar to that of new-built comb. The bees, therefore, take to it with great eagerness. That is why many apiarists will tell you that old foundation is not so readily accepted by the bees. But just as soon as that old foundation is covered by the cluster it becomes warm and, and within a very few hours will be as soft and acceptable as the new-made. Of course, if both the old and the new are

put into supers, the bees will not hesitate and will appropriate the new foundation more promptly because it is more malleable. But if you do as I did in the experiment referred to above, and place both kinds in the centre of the cluster it becomes warmed up, and acceptance of the two by the bees will be so little marked that you will not be able to detect it after the lapse of 48 hours.

Now, why do bees cut holes in foundation that has been in the hive a long time? If you were to watch them you would see that they use the particles thus cut to repair the combs within the cluster. This cutting of holes in foundation is always done when they do not see the possibility of using it where it is outside of the cluster.

There are, however, exceptions to all cases. Some foundation may be so covered with dust that the bees have repugnance to use it. You find similar instances with dried-up combs which are given them in partly-built sections. I have sometimes seen the bees build new combs in preference to using old ones that were within their reach. But give them old combs in the centre of the cluster and see whether they do not use them quickly. If there is anything mouldy or objectionable about such combs, when they are inserted by the apiarist in the heart of the brood-nest, they soon cut out the objectionable parts and make new work out of the old. You will find the case exactly the same with comb foundation made of good beeswax, no matter how old it may be.

It is therefore safe to say that old comb foundation, which has been properly kept, will be worked by the bees as readily as the new goods as soon as it has been heated sufficiently. Exposing it to the heat that would soften it for a few minutes previous to its in-

section in the hive, would make it as promptly acceptable as new goods, but this is not at all necessary.

Old comb foundation has one advantage over new goods. Owing to its very toughness it is less liable to stretch or break down under the weight of bees than the other, and is safer for swarms.—“American Bee Journal.”

RETAILING HONEY AND BUILDING UP A PROFITABLE GROCERY TRADE.

* * * *

F. B. Cavanagh.

The most profitable method of turning the season's output into cash may be most logically decided by an examination of the man and the conditions under which he is placed. Some are naturally poor salesmen, either by personal interview or letter writing. As I, myself, am one of this class, I wish to offer the encouragement to such that salesmanship is largely an acquired art, derived through study and experience.

Retailing honey is, to a certain extent, a separate business from producing it. If one can realise enough extra net profit at retail, above wholesale prices, to bring profits equal to those of any other business in which he might engage during winter months, then by all means retail the honey, for, by so doing, one is contributing his share toward maintaining prices and increasing the consumption of honey. For the purpose of being more clearly understood in this article I wish to designate retail sales as applying to house to house canvas, grocery trade and small mail orders only; classing large orders to bottlers, commission house consignments and sales to manufacturers as wholesale shipments.

I am satisfied that the majority of beekeepers who now wholesale their honey, do so ignorantly, neither realizing

the profits to be derived nor the great advantage in gaining a permanent market. The relative price paid for extracted honey by the consumer is about double the wholesale price. Now, who is making the most money out of his effort put forth, the man who produces and sells a carload of honey at 7c., or he who buys that 7c.-honey, and retails it at 15c. to the consumer?

That a house to house trade in honey is a most profitable business has often been proved. I know a man who has for several years bought large quantities of honey and supplied some 10,000 customers. As he is an expert beekeeper, as well as an ex-beekeeper, it is obvious that his present pasture is not less rich than the beekeeping field. He has become so well acquainted with his customers that he no longer has to “talk honey,” but, as he himself expresses it, has only to stick his head through the door and ask “how much?” Furthermore, he is a specialist in selling honey; gets 15c. a pound for extracted honey, and carries honey of a quality well worth it. It is only fair to admit that not all fields will yield equal returns, yet many of us have rich opportunities in this line and do not realize it.

Possibilities of the Grocery Trade.

The grocery trade is, perhaps, the most important sales medium of all, because of its possibilities of distributing large quantities of extracted honey of a quality and price controlled by the producer. Now, if we employ grocers or other sub-agents to distribute our honey, we cannot expect to receive quite the same returns. We must expect to pay our help in selling, just as we pay our help in producing a crop of honey. There are various methods of reaching the grocery trade through circular letters and advertising mediums, but all of them are practically failures with extracted

honey. Grocers are prejudiced in favor of comb honey because of certain dealers having sold them honey which candied. After exhibiting candied honey in glass for some time, they shove it onto a back shelf to be shown only as called for, and then only at a detriment so far as sales are concerned. "Extracted honey doesn't sell, no demand for it, we want it in the comb" is what you will soon become accustomed to hear when you start out as a drummer of your own bottled honey. The remedy is to "take the bull by the horns" as it were, and compel them to buy it or try it.

First convince the merchant that you are a real live beekeeper and knew what honey is. Then convince him that his present stock of candied honey is pure and that by melting it he will sustain no loss. If he is no fuser, offer to take the honey in exchange for your own bottled honey which offer he will gladly accept.

Never "knock" a competitor's honey even if you know the goods to be inferior to your own product. Always boost honey. Incidentally suggest to this grocer that you would be glad to supply him with your honey at any time he is in need. Furnish both comb and extracted honey, for, by so doing, you monopolize more completely your market; besides more firmly impressing the fact that you are a beekeeper.

The Selling-Arguments.

Meet the usual objections in the following manner, and things are bound to come your way. "Honey candies." Yes, all pure honey is apt to candy. Mine is sealed at 160 degrés, which will keep it liquid for a long time, but, should it ever candy, I will replace it with fresh liquid honey, free of charge." "Extracted honey will not sell here, people want comb." "You, of course, know more about selling than I do, but being

a specialist in pure honey for many years, I can assure you success in selling my extracted honey. In the first place, this extracted honey is a superior article, from white clover, rich and delicious. Every customer who buys one box will buy several. Honey being regarded as a luxury, demands a conspicuous place on your shelves, window or show case (here select and insist on your location for display.) Your customers must learn how delicious this honey is, and the great saving over buying it in the comb. For this purpose I am not only selling it under a very attractive label, but here is a placard calling attention to this pure honey, also some leaflets to give away. Furthermore, I guarantee the sale of every pound of honey put in your store. If it doesn't sell to suit you I will take it back and return your money with no arguments. You have no breakage, I stand it if any. I pay the freight. The net price delivered safely to you is so and so for the different sizes, and you sell them for so and so, realizing a profit of so and so, with no possible chance of loss. Shall I ship you 4 doz. of each size?" As a last resort, offer to leave a case of honey to be sold, but don't get them into a habit of expecting this, for grocers, like others, are apt to push sales harder where they have money invested. Impress your grocer with the fact that you are in the field permanently, and will call at stated intervals or on request. Keep an eye out for shaky or dishonest firms. Failures occur in all lines of business; so, be careful and don't get caught with goods unpaid for. Make sales on a net cash basis, or else figure two per cent. for cash, and give 30 days. This each salesman must decide for himself according to his experience and locality.

One Point in getting Big Orders.

Always ship bottled honey in original

packing cases with corrugated partitions; as nothing disgusts a dealer more than to receive a lot of broken and besmeared glasses of honey. Have your cases made in regular sizes of about four dozen each, which will discourage the small, single dozen order idea, and give you a better and larger display, valuable in itself.

Frequently I have made sales to grocers through a friend in a distant city. One sold several tons of honey each year in bottles, tin pails, 60-pound cans, and barrels, and at a nice profit to me. I paid him 10 per cent., and found him worth it, as there were no losses nor adjustments for me to worry about.

Another time I secured, through a friend, the name of a bank in a distant state. I wrote the bank, and, by mention of my friend, was favored with the names of several grocers. These were all written to, resulting in the sale of nearly \$100 worth of honey in tin pails at $3\frac{1}{2}$ cents above market price, or a net profit of \$30 for doing the writing.

Make your mail order customers permanent by writing them each year. It is a fatal mistake to expect them to write to you, for that it isn't the way it works out; and customers expect a man who has honey to dispose of to care enough about selling it to write them first. Remember that mail order customers cost money, and are valuable assets to the business. Keep a list showing the amount of each sale; the kind of package, and the price received, which will serve as a valuable index in deciding what kind of letter to write next year.

—“Review.”

“NUCLEUS” AND “NUCLEI.”

Perhaps no words give more trouble to inexperienced apicultural writers than the two words nucleus and nuclei. It takes some time for the beginner to learn that when he has only one it is a

nucleus, and not a nuclei. And after he has learned that nucleus is the singular and nuclei the plural, he is still inclined to make the mistakes of using the plural form instead of the singular when using the word as an adjective; as, “nuclei plan of increase,” instead of “nucleus plan.” Even so scholarly a writer as D. M. Macdonald lately wrote, “At present I will deal with nuclei-forming,” and the error escaped the eagle eye of the proof-reader of that correct publication, the “British Bee Journal.”

Possibly the beginner thinks, “If I use the plan of making several nuclei it must be a ‘nuclei’ plan, while a nucleus plan would be for only one nucleus.” But if he will think of parallel cases, he will view the matter differently. If a man is engaged in building houses, he is engaged in house-building, not in houses-building; if two cows are in a pasture, it is a cow-pasture, not a cows-pasture.

So let it be remembered that when we use the word as a noun, nucleus is the singular and nuclei the plural; but when used with the significance of an adjective the singular form, nucleus is always used.—“American Bee Journal.”

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