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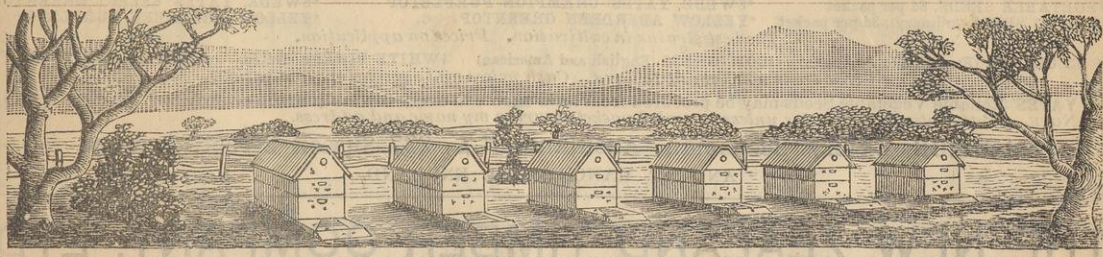
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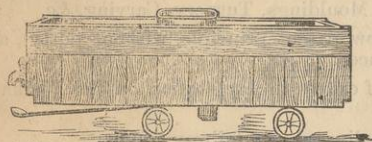
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BEE JOURNAL



No. 3. Vol. II.] AUCKLAND, N.Z., SEPTEMBER 1, 1888. [PUBLISHED MONTHLY SIXPENCE.



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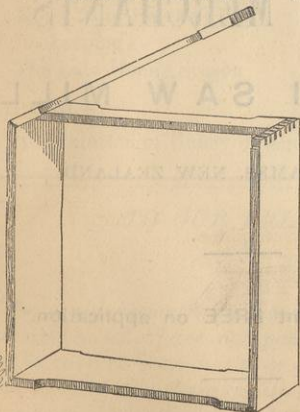
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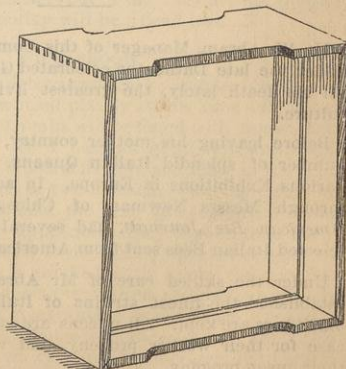
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THE AUSTRALASIAN

BEE JOURNAL

No. 3. VOL. II.] AUCKLAND, N.Z., SEPTEMBER 1, 1888.

[PUBLISHED MONTHLY.
SIXPENCE.]

The Australasian Bee Journal.

PUBLISHED MONTHLY

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Editorial.

SEASONABLE OPERATIONS FOR SEPTEMBER.

THE first of what we may term spring forage is now coming into blossom, which includes willows, poplars, peaches, kowhai, some of the acacias, and other shrubs and trees. Some kinds of acacia and eucalypti have been in blossom for some time, keeping the bees in their vicinity pretty busy during fine spells. There is every appearance at present of a much earlier season than usual. Vegetation is more forward than it was last year at this time, and at Auckland, at all events, we are having much finer weather on the whole. We may of course get one of those spells of cold stormy weather later on, which we have been accustomed to look for of late years that would throw the spring late again, or rather will rob us of much of it, but let us hope not.

Colonies that came out of winter quarters in good condition are now rapidly increasing in population. Some that we examined lately have brood in five and six frames. In anticipation of an early season we have been pushing them forward with a little stimulating food. Those who usually allow their bees to get on as best they can would be astonished to find the difference a little timely attention to them makes, particularly at this time of the year. No amount of attention to bees later on in the season can make up for neglect of them in the early spring months. A clean warm hive, dry mats, proper ventilation, and a good supply of food, are the requisites to ensure prosperous colonies. It is remarkably strange that many persons, who are very careful in looking after the rest of their domestic animals, are most neglectful of their bees. They would as soon think of neglecting their own comforts as those of their poultry, pigs, cows, or horses, yet ask them how their bees are, or whether they have sufficient food, and they will tell you in an unconcerned manner that they 'don't know,' they 'haven't looked at them lately,' which may mean many months, and yet they will think it remarkably strange should their bees die or prove unprofitable. Taking the outlay and the small amount of labour required in looking after a few hives of bees into consideration, there are very few of the minor industries that will give a better return; but if the bees are not properly attended to, then the outlay will be a dead loss.

FOUL BROOD.

Now is the time for detecting disease; if there is foul-brood in a colony it will show itself plainly at this time of the year by killing the brood. Combs will be found with unmistakable signs of the disease. If it has not got a very strong hold, there will be a few brood cells here and there in the centre combs, perhaps a dozen or two in each, with their cappings rather darker looking than the rest, and somewhat sunken, instead of the plump appearance they have in their normal condition, and most likely there will be minute holes in them. If one of these cells is pricked with a pin the remains of the larvæ will be found on the bottom wall, a putrid coffee-coloured mass, which gives forth a sickly stench, though not always detectable at a distance from the nose. If not checked the number of diseased cells quickly increases until scarcely any brood emerges, when of course it is only a matter of a short time, and the colony dies out. As soon as the first sign of disease is detected, remedies should be applied

Contents.

EDITORIAL—

Seasonable Operations	35
Bogus Honey in Melbourne	36
New Zealand Beekeepers' Association... ..	36
Is the Ventilation of Hives yet Perfected? By J. R. M.	37
Can Honey Become a Staple? By T. J. Mulvany	39
Jottings. By Lahm Dearg Erin	40
Queensland Jottings. By C. C. Cusack	41
Beekeepers' Convention	43

OCCASIONAL NOTES—

Humble Bees. By O. Poole	43
---------------------------------	----

CORRESPONDENCE—

Notes from Hawke's Bay	45
Beekeeping... ..	45
The Late Honey Season	45

CLIPPINGS—

Adulteration of Honey in America	46
-----------------------------------------	----

TO OUR FRIENDS.

We would respectfully remind those of our old Subscribers who have not paid their subscriptions for the current year that they are now due, and we shall be obliged by their remitting the same. Should there be any who do not wish the Journal renewed, we shall be glad if they will drop us a line to that effect. Half-yearly subscriptions taken.

once, and, as we stated last month, the spring is the best time for dealing with it. In very bad cases it is better to burn the combs and frames, but the hive may be saved and cleaned by thoroughly disinfecting it in the manner described at the end of the Foul Brood Act.

QUEENLESS AND WEAK COLONIES.

Unite these as advised last month. Weak colonies are often the result of poor queens, and the sooner the latter are made away with the better. When uniting a weak stock with another, or two weak stocks, remove the queen from the weakest before putting the bees together.

BREEDING.

Under 'Spring Management' I gave full instructions last month for this important part of apiary work at the present time. Attention must be paid to the food supply, and also to the division boards where in use. When the space between them is getting rather crowded draw the boards apart a little, sufficient to allow another frame to be inserted, and put a clean comb in the centre of the brood nest. Sometimes a frame of emerging brood may very well be spared from an extra strong colony to give to a weaker one; this is a quick method of building up. Take note of any queens that are rather backward in breeding with the view of superseding them during the swarming season. Take one of your best stocks and compare the others with it, and those that do not come up to your idea of what they should be, mark them for new queens from your best stocks.

QUEEN REARING.

Those who make a point of rearing queens early should now be stimulating two or three of their best colonies. Some drone comb should be put in the centre of the brood-chamber of one of the strongest, and about fifteen days after the first drone eggs are laid, put a clean, bright, empty worker-comb for eggs in the brood nest of the colony you wish to raise queens from. A comb used one season for honey only, is the best for this purpose. We shall give the whole process of queen rearing, and transferring, with illustrations, next month.

STARTING AN APIARY.

Those who think of starting an apiary this coming season would do well to make arrangements soon with some reliable person for what bees they require. We would not advise beginners to buy bees in box hives, for the chances are against getting hold of healthy stocks. The best plan is to go to a practical beekeeper and order early swarms. You may have to pay a little more for them, but you will get value for your money, whereas, in the former case, you don't know what you are buying, neither does the person know what he is selling you. In the meantime, before the swarming season sets in, the hives, etc., should be prepared in readiness for the bees.

Planting and sowing honey plant seeds may still be continued, and grass and weeds about the apiary, which are now growing apace, should be kept down.

BOGUS HONEY IN MELBOURNE.

SUCH is the title of an article that appeared in a late number of the *Australian Beekeepers' Journal*. There appears to be a foregone conclusion among the beekeepers of Victoria that the honey markets there are flooded with spurious honey, which is sold at a price far below what the genuine article can be produced and sold for, and they are naturally complaining that it is ruining the legitimate honey business. It is now some fifteen or eighteen months since we were first informed that some compound, of which it was believed glucose formed the chief ingredient, was being sold largely in Melbourne as genuine honey. Since that time we have received several communications from Victorian beekeepers on the same subject; some of them have been published in the *Journal*. Now, to say the least, it does seem strange that such a

suspicious article should have been allowed to be on the market such a length of time without some steps being taken long ago by the Victorian Beekeepers' Association to find out whether there were good grounds for the suspicion or not. Certainly, the first duty of an association is to protect its members against fraud, or where there are reasonable grounds for suspicion, as in the present instance, to thoroughly investigate the case. If it does not do this, of what use is the Association to the industry? As late as the 28th of May last nothing had been done in the matter by the Association, but at a meeting on that date a sample of the suspected honey was submitted to the members present, when their opinion appears to have been unanimous as to it being a fraud, and a resolution was passed that the President and Secretary should take the matter in hand and report next meeting. Now, we hold that the Association should have done this twelve months or more ago, for the Association could not have been ignorant of the matter at that time, when we heard of it here from one of its members. If the article is really what it is supposed to be, a great injury has been done to the beekeeping industry of Victoria that will be felt indirectly for years to come, for whether the fraud be quashed now or not, the public will expect and want the genuine article at the same price, or the demand will fall off.

We do not acquit some of the Victorian beekeepers from blame altogether, for more than twelve months ago we made an offer to one if not to two, that if he would send us a sample we would have it analysed at our own expense, and send him the report, but no sample ever came. We hope, however, now that the Association has taken the matter in hand it won't let it rest until the Victorian markets are cleared of all spurious honey, if such is now being palmed off on the public. We shall be glad to know the result of the investigation.

[The above was written for our last number, but was crowded out.]

NEW ZEALAND BEEKEEPERS' ASSOCIATION.

THE regular monthly meeting of the Executive Committee was held at the office of Messrs. Hopkins, Hayr and Co., Lower Queen-street, Auckland, on Friday, August 3rd, at 2.30 p.m. Mr. G. L. Peacocke in the chair.

After the routine business had been disposed of, the Secretary reported having sent copies of the report on the railway tariff, together with the recommendations of the sub-committee, to the Hon. the Minister of Public Works, Mr. F. Lawry, M.H.R., and Mr. C. Hudson, in accordance with the resolution adopted at the last meeting, and had since received acknowledgments, with an intimation from Mr. Maxwell, Manager of Railways, that the subject would receive consideration.

The Chairman stated that in a conversation with Mr. Hudson, Traffic Manager Auckland Railways, the latter said the Committee had misapprehended the terms of the tariff, and that the highest freight

on locally produced honey is £1 13s 4d per 100 miles; it is only on imported honey that the higher rates are charged. It was, however, pointed out by the Chairman and Secretary, that there is nothing in the present tariff to indicate that imported honey is meant. Mr. Peacocke thought the tariff should be more explicit, so that no misunderstanding could occur; it was not the Committee's fault that they had been labouring under a mistake. Mr. Hopkins thought that the fact of the omission being discovered would be a good thing, as he believed that in nine cases out of ten, country stationmasters would charge the higher rates, and they could hardly be blamed for so doing under the circumstances, for the tariff simply reads:—"Honey in bottles, tins, and jars, owners' risk, Class A; honey in kegs or casks, owners' risk, Class B; honey extracted, packed, locally produced, owners' risk, Class C; honey extracted for export in consignments of not less than 10cwt., owners' risk, Class D," there being nothing mentioned about imported honey. As nothing further could be done until an official reply had been received the matter was allowed to stand over.

A telegram from the President, notifying the Committee that the Government had consented to take charge of the Foul Brood Bill, with the view of getting it passed this session, was read. A hope was expressed that as there was no opposition to the Bill, it would be put through instead of being one of the slaughtered innocents at the close of the session.

The subject of marketing honey was next brought up, and an extract from a private letter from Mr. Mulvany was read, expressing his pleasure that the question was being considered by the Association. Mr. Mulvany also offered suggestions, but as this was a private letter to Mr. Hopkins and the latter had already replied to it, the Committee decided to wait for further communication from Mr. Mulvany, whose assistance in solving the question they were anxious to have. The Secretary, in reply to a question, stated that no communications had yet been received in answer to the invitation of the committee, but he pointed out that there had scarcely been time for any to come in since the issue of the *Farmer* and the *Bee Journal* containing the invitation, and the Chairman suggested for the consideration of the Association, the issue of market rates of honey at stated intervals similar to the quotations published by the Grocers' Association. He thought this might be done by the Association. It was however decided to postpone further discussion of the whole matter till time had been given to distant members to send in their views on the subject.

It was incidentally mentioned, at the close of the meeting, that an effort should be made by the Committee to get up what is termed in America a "Beekeepers' Convention," that is, a meeting, extending over a portion of two or three days, at a time of the year when it would be most convenient for beekeepers to attend. The question is to receive consideration at the next meeting. A vote of thanks to the chairman concluded the meeting.

IS THE VENTILATION OF HIVES YET PERFECTED?

(Continued from page 26.)

No. 2.

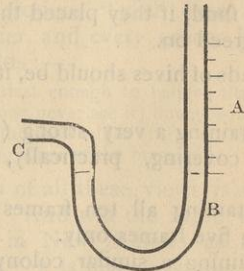
By J. R. M.

SERIES OF EXPERIMENTS.—No. 1.

OBJECT.—*To determine the amount of air which enters Hives, differently protected, and differently placed, under different velocities of wind.*

THE three kinds of hives which are suggested as necessary for these experiments to be sufficiently exhaustive are:—Hive A, a one-storied Langstroth nailed on to its floor board, and hermetically sealed above by a flat board screwed on to the top, and filled with full combs; Hive B, a common one-story Langstroth, with two scrim mats and open roof holes; Hive C, the same, with the ventilating roof holes well padded. It would not be necessary to have bees in the hives for these experiments; only let the combs be pretty full of honey and sealed.

As to the wind-gauge, there is a very cheap and simple one which could be obtained from any optician for a few pence. It is formed of a piece of glass tube, half an inch in diameter, bent thus:—



A scale of inches (A) is filed on the longer arm, or a strip of paper gummed on and marked. It is then filled with water or oil (B) up to the first mark of the scale; and the shorter arm, with its mouth (C) turned at right angles, presented to the wind. As the wind increases in velocity, the liquid is forced up the longer arm, and so provides a means for accurately gauging its velocity and pressure. Tables are drawn up in meteorological works to enable an experimenter at once to ascertain the facts which he wishes.

One of these gauges would have to be fixed in front, or above the hive, in order to ascertain the velocity of the wind; and the other at the back of the hive, with its mouth run into the interior of the hive through a carefully padded hole. By placing the hives in different positions, and noticing the difference between the two gauges, the required data would be obtained. These could be worked up by the experimenter, or placed in the hands of some expert. For instance, if in the front gauge the liquid rose one inch, and in the gauge which had its mouth inside the hive only half an inch, it would be known roughly that the velocity and pressure inside was about half that outside. A table would give the difference correct to two places of decimals. The

gauges might be quoted as A 1, A 2, B 1, B 2, C 1, C 2, the letters referring to the hives, the numbers to the position of the gauges, the first being for the velocity of the wind outside, the second for that inside.

Beautiful little wind-gauges are made for coal mines, a very delicately balanced fan wheel registering the number of miles per hour; but they cost £4 or £5 each, and so probably are out of the question.

No. II.

OBJECT.—*To ascertain the effect of wind of different temperatures and velocities on the internal temperature of hives.*

To carry on this series three sets of hives would also be advisable, but any experimenter might preliminarily take any one of the set. And secondly, some thermometers, common and clinical (that is, merely the glass tubing of a thermometer without any metal or wooden case), would be required for each set to settle all questions which can arise. Sufficiently accurate clinical thermometers can be obtained by the dozen for a small sum, or the tube of a very common thermometer could be taken out of its case and have a strip of paper pasted up one side and marked. Experimenters with only two thermometers could bring most acceptable statistics to the common fund, if they placed them according to a position agreed on.

The three kinds of hives should be, it is suggested, as follows:—

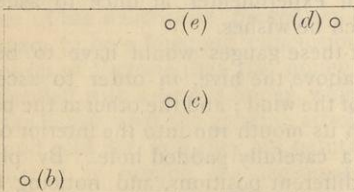
Hive X containing a very strong (united if desired) colony, covering, practically, all the ten frames.

Hive Y containing all ten frames but a weak colony covering five frames only.

Hive Z containing a similar colony to hive Y, but with contracting boards, narrowing the hive to five frames.

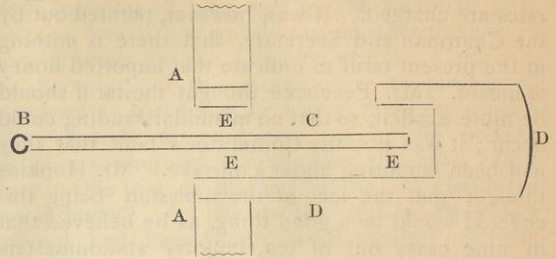
The position of the thermometers should be, it is suggested, as follows:—

(a) Outside, in front, to register the external temperature of the wind (this could be a common mounted thermometer, of course). (b), (c), (d), (e), clinical thermometers, arranged as below, in the back of the hive:—(b) and (d) entering



between the end frames and the sides of the hive, and (c) and (e) between the two central frames. These four thermometers would best be prepared in this way. Let four clean-cut one inch holes be cut in the back of the hive in the positions marked. Then let four clean turned plugs about the length of the thermometers, be obtained. A half-inch hole must be run into these

nearly all the way through, and then half the plug cut out, thus:—



SECTIONAL VIEW OF BACK OF HIVE AND PLUG.

A A Back of hive with hole for inserting plug and clinical thermometer; B bulb of thermometer inside hive; C tube of thermometer in plug projecting outside hive; D D plug; E E E space for packing thermometer.

The thermometers must then be introduced into the tubes, leaving the bulbs projecting out a good half inch. They must be packed in rabbit-fur, or the next best non-conducting substance obtainable, so as not to touch the wooden plug; and a movable cover of some thickness and well protected made to slip over all the portion which will lie outside the hive. The bulb end must be then introduced into the prepared hole in the back of the hive, the inner part fitting accurately in the hole. By removing the removable cover the observer would be able to note the inside temperature, as recorded on the scale.

(f) A sixth clinical thermometer might with advantage be introduced into the cluster through a hole in the mats, but thermometer (e) would supply probably sufficient indication.

An observer owning only two thermometers would have to place one in front of the hive for the temperature of the wind, and the other in some part of the hive. It would double the value of his observations if he would work in common with others; and although his observations would be confined to one portion of the hive, they would confirm or tend to correct similar ones by more extensive experiments.

Thermometer (b) will indicate the effect of the wind on distant lower parts of the hive; thermometer (c) the temperature half-way up near the clustering bees; thermometer (d) that in distant upper corners; thermometer (e) that surrounding the clustering bees. But of all these the most important one is the last, as showing best what effect the wind has on the air nearest the cluster.

Lastly, a wind-gauge to indicate the velocity of the wind would have to be placed in front of the hive, and its reading recorded, at the same time as the readings of the thermometer were taken.

It is needless to say that the writer, after all this preaching, purposes also to endeavour to practice it. Professional duties have hitherto absolutely prevented it. The only request he will make is, that the above suggested experiments should be criticised, and if condemned, some others suggested, so that his observations may be corrected or confirmed by others, and so not thrown away. It would, he respectfully suggests, be a proper subject for the New Zealand Beekeepers' Association to discuss and settle. And should the New Zealand

and Australian apiarists carry out a series of carefully tabulated experiments on this subject, it is not too much to say that they would deserve the thanks of the rest of the apiarian world.

In the next number the second subject, viz., the effect of the temperature of the bees on the ventilation, will be referred to.

(To be continued.)

CAN HONEY BECOME A STAPLE COMMODITY?

BY T. J. MULVANY.

THE Committee of the New Zealand Beekeepers' Association has issued an invitation (which I trust will be very generally followed) to distant members of the Association, to communicate their views and suggestions "on the whole matter of marketing honey," so as to assist the Committee in their deliberations. This is the burning question for all beekeepers who go in for raising honey in quantity. As Mr. Poole remarked when bringing the matter before the Committee, "the honey trade here is not in a healthy condition;" and this is true, not only of New Zealand, but also of other countries where the industry is of much older standing.

The June number of the *American Apiculturist* contains six articles, by six different American apiarists, on the "Improvement of the Honey Market;" that is, on the question, "How is such an improvement, so much needed, to be brought about?" All these articles are well worthy of perusal, if it were only to observe from what various points of view the writers touch on the question.

Can honey ever become a staple article in commerce? This is a point about which, according to my notion, we must arrive at some clear and well-grounded conclusion before we shall be in a position to judge how the market, whether home or foreign, can best be worked up. The writers in the *Apiculturist* answer the question each in his own way, two with a flat negative, two in a qualified way, and two in the affirmative.

Mr. Z. T. Hawk says:—

"Honey is not a staple, it must be classed with the luxuries, and a heavy crop or hard times with those who are the usual customers, invariably have a depressing influence on the market."

Mr. R. L. Taylor, commenting on the futility of any attempt on the part of honey producers to keep up prices by a system of combination, seeing that farmers, the producers of wheat, cannot even fix the price of that commodity, goes on to say:—

"Wheat is a staple, and cannot well be dispensed with by consumers; honey is a luxury, and is really necessary in but limited quantities. An artificial price, even if it were not a high price, would greatly curtail consumption."

Mr. G. F. Robbins states at first, very positively:—

"Bread and meat are standard living commodities—honey is not. The former may be regarded as necessities, and always must be; the latter is not a necessity, and never can be."

But he does not assert that it can then fore never become a staple; on the contrary he gives the following qualified opinion:—

"Whether or not honey may ever become a staple is a

much mooted question. Some contend that it can be, others that it must always remain a luxury. I hold to a mean between these two extremes. Honey, I believe, may become, and is becoming, largely a staple; but it will never be so much of a staple as syrup." (Why?) "It will always be more of a staple than apples."

Dr. C. C. Miller speaks also in a qualified manner:—

"It is all very well to talk about honey being a natural sweet, and so much healthier than the bedrugged and bedoctored stuff thrown on the market in the shape of syrup, sugar drips, etc., and perhaps we ought to say more than we do; but after all it does not seem to make much impression on the public mind. They go right on buying the bad stuff and letting the honey severely alone. Why? Perhaps habit has something to do with it. Undoubtedly, however, price has something to do with it."

Mr. J. A. Bull is more hopeful, and says:—

"If we 'fix the price' too high, the sales will be limited, and we thereby defeat our own object; on the other hand, if we can offer our honey at such prices as will render it reasonable for the masses to buy and use it as an article of daily food, why, then the demand would be enormously increased. It would no longer be looked upon as a luxury only to be enjoyed by the wealthy; but it would become a staple article in commerce, and find ready sale at all times. And I believe that it is in this direction that we shall find an open door of relief for the honey market."

Finally, Mr. J. H. Larrabee is so sanguine as to look forward to a successful competition against sugar, even in a great sugar producing country like the United States. He counsels his brother beekeepers not to cease in their endeavours to distribute their produce "until every household has its honey-pitcher, and every grocer its honey show-case," and adds:—

"I am enthusiast enough to believe that some time (you and I, reader, may never see it) honey will be restored to its lost place upon the food tables of the world, and drive out the health-destroying sugar of the present."

Now which of all these views is true, or nearest to the truth? And will the same view be correct for our case in New Zealand as for that of the United States; or is there anything peculiar in our condition which will require or justify a modification of that view? It is of vital importance that we should make up our minds on this point, and shape our course according to the decision we come to, for it is quite clear that we are at present either producing far too much honey, or else producing far too little. If it be true that honey never can become a staple of consumption in this country, then the sooner the most of us give up the attempt to flood the market, the better for ourselves. In that case it would be only prudent for each beekeeper to confine his exertions to the supply of his own wants, or to the production of so much surplus honey as he can conveniently dispose of among his neighbours who would fetch it from the apiary in their own vessels, and leave it to the very few who may be so situated as to be able to produce exclusively white clover honey to provide the large towns with a limited quantity of the finest section honey, and a fancy article of extracted honey in small tins, at such prices as will make it worth their while to do so. If, on the other hand, it be true that honey of ordinary good quality, such as the natural flora of the country will afford, can (in its extracted state, of course) be made an article of general daily use, as sugar is at present, then the chief difficulty

to be overcome will be to provide such a constant and abundant supply of that article that those who lay themselves out to use it may never be at a loss on that account, while the supply of delicate section honey and small fancy packages of extracted honey, at fancy prices, should still be left in the hands of those who can undertake it with advantage, as a distinctly separate line of business from the other, and one which must therefore be regulated upon quite different commercial principles.

The contention that honey can never become a staple commodity is, as far as I have yet seen, based only upon illogical grounds. The argument generally used may be stated in the form of a syllogism as follows:—

1. Staple articles of commerce must be necessities of life.
2. Honey is not a necessary of life.
3. Therefore honey cannot be a staple.

Now the first of the premises is a gratuitous assertion, which is not only not proven to be correct, but which can easily be shown to be incorrect. Are wool and cotton, wheat and sugar, staple commodities? No one will deny that they are so. But are they, in the strict sense of the word, *necessaries* of life? Certainly not. The world could do without woollen and cotton goods, say by use of furs and skins instead of the former, and of linen instead of the latter; and as for wheat and sugar, the Irish lived long enough on potatoes, the Scotch on oatmeal, and the myriads in Central Africa upon manioc porridge, all without consuming a grain of wheat; and all mankind were content with honey before sugar was ever manufactured from cane or from roots. The articles mentioned have become staples because they supply, in a cheap and convenient form, wants which, if we have any regard to our comforts, must be supplied in some form or other. In fact, each article to become a staple, must be in general demand, but need not be an actual necessity.

The second of the premises is only correct if the word *necessary* be taken in that strict sense of the word which we have seen it will not bear in the first proposition. The conclusion arrived at is therefore false, and it is at least an open question whether or not honey may become a staple of civilised life in the world in general, or in New Zealand in particular.

If we must admit that honey is not a necessary of life any more than sugar is, we may claim for it a preference upon many grounds. Food of some sort is a necessary. Both honey and sugar are forms of an ingredient which seems to be an essential in human food—saccharine matter; and there can be no doubt that of the two forms, that of honey is the most natural and wholesome, more suited for the nourishment of the human system than that of manufactured sugar. Ever since the creation of man, as far as we know, it has been used and prized as an article of nourishment on a par with that other great natural food, milk, whenever and wher ever it could be procured, and as we find it still used and prized at the present day all through Africa, and in other countries where it abounds, and where manufactured sugar is still unknown. There seems then to me to be no conceivable

reason why it should not again become a great staple of consumption side by side with, though not to the exclusion of, common sugar, if it can be produced in sufficient quantities, and put upon the market in equally convenient form, and on at least equally favourable terms as manufactured sugar. Is it possible for us in New Zealand to bring about this state of things? That is the serious question I would like to urge upon the immediate attention of all earnest beekeepers, and especially on that of the Committee of the New Zealand Beekeepers' Association, and to which I hope to return again with suggestions, which I must now omit for want of space.

In the meantime, I will only refer to a curious feature in the American movement. The same issue of the *Apiculturist*, already quoted, contains a letter from a cane sugar manufacturer in Louisiana, stating his belief that he could "make a very good grade of sugar from honey," and offering to make the necessary experiments if encouraged by the honey producers. The manager of the paper reprints an editorial, which he wrote in October, 1886, in which he suggested that American beekeepers should subscribe 5,000 dollars, to be offered as a premium to the person who should "devise some method for converting honey into sugar similar to granulated sugar." He takes credit to himself for having been a "little in advance of some other people;" calls on enterprising beekeepers to "aid in the experiments to convert honey into sugar;" and at the same time, rather inconsistently as appears to me, adds, "I stated some time since that the extractor must go, and it begins to look like it." Now, if there be anything in the idea of converting honey into sugar, surely the extractor would be indispensable for procuring the honey to be operated upon. But what sort of price could be allowed for honey, which, by a more or less expensive process, and with a decided loss of weight, is to be converted into an article to be sold in competition with common sugar in the land of its manufacture? And would not the honey be more likely to lose than to gain in point of chemical qualities, which constitute its natural superiority over cane sugar for purposes of nutriment?

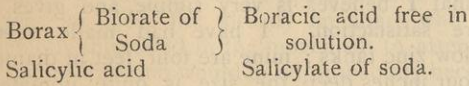
(To be continued.)

JOTTINGS.

BY LAMB DEARG ERIN.

IN last month's number I see the 'Foul Brood Prevention in Bees Act' printed in full. This, indeed, is 'most refreshing,' and it will be more so when it becomes law, notwithstanding the opinion of one who thinks it a 'necessity that the foul broody atmosphere of the *Journal* needs purification.' I note in the schedule the first remedy, salicylic acid and soda borax in solution, and a few observations on this subject may be of interest. I glean the following:—'It is well-known, especially in the medical profession, that acids and alkalis are incompatible, that is, if one is given as a medicine to produce a certain effect, as a general rule the other must be avoided. Of course there are exceptions. For instance, if the acid to be used as

medicine is very strong, a weak alkali is permissible without interfering with the action of the medicine, or *vice versa*. Also that chemicals used as remedies or medicine, which would on mixing exchange component parts, cannot be given together, and should not be mixed. Borax is biorate of soda. In aqueous solutions, boracic acid is one of the weakest acids known, and that soda is one of the strongest alkalies. On mixing salicylic acid and soda borax together, salicylic acid decomposes the borax thus :



So instead of having salicylic acid and borax in solution, we have boracic acid and salicylate of soda, or sodium. It is well known that salicylate of sodium is entirely worthless as a disinfectant, not only of this chemical, but of all other salts of salicylic acid. Therefore, to obtain a reliable disinfectant, the *pure acid itself* should be used, and that is done by dissolving the salicylic acid in *pure alcohol* in the following proportions, viz., 1 oz. of salicylic acid to 8 oz. of pure alcohol; then mix the solution as required in either water or syrup. I must say I prefer Cheshire's method with the pure phenol, combined with bichloride of mercury, to any other remedy I have yet tried; but, like everything else, to be a success it must be thoroughly well done, or else make a holocaust of all your infected hives.

I note the query in 'Bee Gossip,' 'Do bees join another swarm when on the wing?' I can bear out Mr Poole's testimony that they do, having found bees of both races mixed when having swarms last season—Italians with blacks, and blacks with Italians, and hybrids also. I note also in Mr Mulvany's report that he mentions the bulk of the honey stored by his bees last year was so thick as to be almost unextractable. I can fully sympathise with him, as last year I had more combs broken down from this same cause than I ever had in previous seasons; but strange to say, from some hives the honey was easily extracted, in others quite the reverse. This occurred mainly in the latter part of the season—in the month of February—and it was then the honey seemed to get so thick. Again, I found that honey taken in December and January granulated very quickly; in fact, showed signs of granulation a week after extraction; whilst that taken in February (gathered mostly from thistle bloom, I presume) has not even consolidated yet, although very thick. I think the dry hot summer we had last year, and the absence of any rain during November, December, January and February, had a good deal to do with it. At present very little is known as to the relation of the secretion of nectar in plants in regard to the weather, and if reliable statistics could be obtained for several seasons from beekeepers who reside in the different districts of New Zealand, the laws regulating the production of honey might be obtained. Cowan's method of keeping a register is briefly thus. A page is ruled off into eight divisions on one side of a sheet of paper, the other left blank for any observations that the apiarist desires to

make. To illustrate it more fully, I give you a plan:—

Month	Hour	Height of		Wind	General Account of		What flowers plants, trees, etc., in bloom
		Barom.	Therm.		Weather.	Ingather.	
Oct. 25	9 a.m.	29'23	64'2	N.W.	Clear	Good	Whiteclover

I give this hint, trusting that some of our enthusiastic beekeepers will follow in the wake of Mr Mulvany, whose report for 1887 and 1888 is as lucid as it is instructive.

It is now twelve months since I had the privilege of becoming a contributor to this *Journal*, and here let me record my hearty thanks to the Editor, as well as the numerous correspondents who have taken the trouble to answer some of the queries propounded by me, also for the uniform courtesy I have always experienced at their hands. On some points we have been at variance; yet I can look back with pleasure at our friendly controversies, which have ever been instructive. Being an enthusiast in the cause led me to take up my pen on its behalf, and to see this *Journal* firmly established has always been my earnest wish. 'FOR WHATEVER YOUR HONEST OPINION IS, STATE IT BOLDLY. A MAN WHO HAS NOT THE COURAGE TO STAND BY HIS OWN CONVICTIONS IS NOT WORTH A RED CENT.'

[The pleasure we are sure has been mutual, for our friend's contributions have, we know, been highly appreciated by his brother beekeepers.—ED.]

QUEENSLAND JOTTINGS.

By C. C. CUSACK.

WITH each number of the *Journal* I have been hoping to find that some Queensland beekeeper had supplied you with apicultural notes; but, as none have appeared from this colony, I will endeavour from time to time, as business permits, to let your readers know how our bees and beekeepers are doing. I shall not occupy your space with flattering remarks *re* the *Journal*, but will try to show my appreciation of it in a practical manner.

The *Journal*, as a medium for collecting, recording, and disseminating information and the experiences of our beekeepers, should undoubtedly be of great value to apiculture in Australasia, and it behoves us all, for our mutual benefit, to make use of its columns when we have anything useful to impart.

The honey resources of this colony are undoubtedly very great, and in suitable districts, with favourable seasons and proper management, the return per hive is quite equal to that of any of the sister colonies. In New South Wales, and in Queensland especially, the beekeeper has difficulties to contend with which are not felt in colder climates with different flora. One drawback which the apiarist has here—paradoxical as it may sound—is owing a great deal to the mildness of the winter, which, coupled with the peculiar flora, makes it very uncertain when the trees will flower. The *Eucalypti*, from which the greater part of our honey is gathered, have no fixed time

for flowering, but blossom during spring, summer, autumn, or winter, according as it seems to their own sweet will. For instance, the spotted gum flowered in 1886 in June, and in 1887 in December; and the white gum, in 1887 in September, and in this year in June; and so on with a great number of the other varieties. Taking a series of years, the honey season may be said to commence in September in this district (four miles from Brisbane), though last season very little honey was taken before January. When the flower buds form on the trees it is almost impossible to predict when they will flower. It is not at all unusual for buds to remain on the trees six months or more without blossoming. I examined some buds on a 'stringy-bark' to-day which formed more than eight months ago and have not altered in the least in that time. They will most probably burst into bloom this spring. The *Eucalypti* will often flower two or three times in the same year, and then again they may not flower for several years. One large red gum I have noticed for the last eighteen months to flower regularly once in about every four months. All the trees mentioned belong to the *Eucalyptus* tribe, and these remarks are intended to apply solely to them.

By noting the time at which the trees flower, the season, climate, temperature, rainfall, etc., the bee-keeper, after some years, may be able to estimate with tolerable accuracy the time when the honey season will commence.

There are several other evils arising from the mildness of the climate. The change from winter to spring in a tropical climate is so gradual that the bees do not build up so rapidly or show the same briskness in spring as they do in countries with cold winters. Then again there is a great strain upon the egg-laying powers of the queen owing to our long summer, which exhausts her fertility earlier than in countries with a short summer. Swarming lasts for eight months in the year—from beginning of September to end of April. The hives, as a rule, have brood in them all the year round, thus never giving the queen an entire rest to recuperate her exhaustive labours through the spring and summer. The bees generally gather sufficient honey and pollen through the winter to make up their daily requirements. Some beekeepers are putting on and taking off sections at the present date.

I have queens that have been laying without ceasing for over two years. Taking an average of a thousand a day for that period, which is not a high estimate, it makes the enormous total of three-quarters of a million of eggs for the two years, which would weigh 2,000 grains, or one thousand times the weight of the queen. When it is remembered that the germs with which each of those eggs were fertilised comes from the *spermatheca*, a small sack in the queen's body about the size of a pin's head, and that this sack is supposed to contain several million germs, some idea may be formed of the marvellous minuteness of life; for each of these germs is practically a live animal, and is capable of changing the sex of the bee from male to female. From a hive which contains one of the above queens I took 336lbs. of extracted honey in 1886.

SUPPLYING BEES WITH WATER

WHERE bees cannot obtain water from natural sources, within a reasonable distance of the apiary, it is necessary to supply them with water in some artificial manner. I have tried a number of methods recommended in works on bee culture, such as inverted bottles, tins with floats, etc., none of which I find answer satisfactorily for a large apiary. After a considerable number of experiments, I have lately hit on a method, which is original I believe, is very simple, and gives me entire satisfaction. I have had made several shallow zinc tanks; mine are four feet in diameter by four inches deep, the size is quite immaterial and may be made to suit the size of the apiary. These tanks are filled with gravel and sand, hollowed out in the centre, with a gradual slope to the edge of the tank. They only require to be filled with water to within about six inches of the edge to be ready for use. As the water sinks the bees follow it down towards the centre of the tank. Capillary attraction keeps the whole exposed surface of the sand moist, giving a large surface for the bees to alight upon, and to sip the water without the least danger of being drowned. I find by marking bees and timing their flight, that when carrying water from within fifty yards of their hives they make on an average three flights in twelve minutes. I have noticed bees marked at 10 a.m. have been steadily carrying water at 4 p.m. I shall have more to say on this subject in a future paper.

Indooroopilly, Queensland.

[We shall be very glad indeed if you can find it convenient to contribute such interesting notes as the above on Queensland beekeeping regularly. It appears most singular that the *Eucalypti* should blossom in such an erratic manner, and we can well understand what a state of uncertainty beekeepers must be always in under such circumstances. So far as we have seen, the *Eucalypti* growing in New Zealand, which are chiefly blue gums, blossom very regularly, commencing about the end of June or beginning of July, and yield a deal of nectar. The strain upon your queens must be very heavy indeed, and we should think they would require superseding the second season. We should very much like to know what you consider a fair average yield per hive of extracted honey in an apiary say of 100 hives for your colony, taking one year with another.—Ed.]

ERICA ARBOREA FOR SHELTER AND BEE FOOD.

This is a most useful plant for the apiary. Grown as a hedge it affords good shelter for hives, and belonging to the heath family is sufficient to recommend it as a bee plant.

We have made arrangements by which we can supply large plants, well balled, at 6s. per doz. or 35s. per 100. Smaller plants 25s. per 100, with 1s. 6d. added for packing case.

If planted four feet apart a close and ornamental hedge will be obtained which will bear trimming to any extent.

BEEKEEPERS' CONVENTION.

It is the intention of the Committee of the New Zealand Beekeepers' Association, at their next monthly meeting, to discuss the matter of holding a beekeepers' convention at some time during the ensuing summer when it would be most convenient for the majority to attend. It is very desirable for many reasons that as many members of the Association as could make it convenient should meet at least once a year; in fact we might include all beekeepers, for those not already members who felt sufficiently interested in the movement to attend a meeting of this kind would in all probability become members of the Association before leaving. The general idea among the committee is, we believe, that if a sufficient number of beekeepers would promise to attend so as to ensure a successful meeting, they would draw up a programme after the American plan; that is, the reading of papers, discussion of same, questions and replies, and the discussion of all questions immediately affecting the welfare of beekeeping—the meeting extending over two or three days, or whatever time might be agreed upon. There cannot be two opinions as to the result if such a meeting could be successfully arranged.

In America these annual conventions have become so popular that beekeepers frequently travel many hundreds of miles to attend them, and they are unanimous in praise of the benefit derived from them. It is just possible that the Committee of the New Zealand Beekeepers' Association in the event of a convention taking place in Auckland could make arrangements with the steamship companies and railway departments for special concessions to those attending, and also for hotel accommodation for those requiring it the same as is done in America. There the different committees have the privilege of issuing tickets to those intending to be present at the conventions, which entitle the holder to travel by rail or steamer and board at particular hotels at a considerably reduced scale of charges, and we have no doubt something similar might be arranged here. The subject will be fully discussed at the next meeting, and we hope that something in the direction desired may come out of it.

TO OUR SUBSCRIBERS.

THE *Journal* is posted to every subscriber on the day of publication, but should any go astray, we will gladly post another copy if notified before the edition is exhausted.

Those who have not received the whole of their copies in due course please notify us at once.

A LIBERAL OFFER.

AS we have a number of spare copies of each issue of the *Journal* (with the exception of the first, which is now out of print), we will send post free to any address in Australasia the eleven numbers of Vol. I. for 4s. This is a good chance for new subscribers to get the *Journal* from the start.

There are also a few copies of Vol. I. of the *New Zealand and Australian Bee Journal*, cloth bound, still on hand, which will be sent post free in New Zealand for 3s., or out of New Zealand for 3s. 6d.

HOPKINS, HAYR & CO.

Occasional Notes.

HUMBLE-BEES.

By O. POOLE.

[THOUGH matters pertaining to humble-bees may not be considered as coming strictly within the scope of a bee journal, still, seeing that many of our New Zealand beekeepers have been more or less interested in their late introduction, we may be pardoned for giving the following interesting article on their natural history. Most of our readers are aware that we took a leading part in trying to introduce humble-bees into New Zealand some years ago, and that some of our beekeepers were apprehensive of harm being done to apiculture thereby. We need scarcely say that we would be the last to do anything that would be likely to act injuriously to our interests, but, like Mr. Poole, we think that great good will result to farmers from the work of humble-bees, and no harm to beekeepers.—ED.]

Eighteen species of these interesting and useful insects are found in Great Britain. The commonest are *Bombus muscorum*, or carder-bee, which constructs its nest of moss, and *B. terrestris* and *B. lapidarius*, which generally have their habitation under ground, and which constitute the largest species of the hymenopterous family. In Somersetshire they are generally known as dumble-doors, in other parts of England they are called hummel-bees, loom-bees, moss-bees, bumble-bees, and in Scotland foggies. The *B. muscorum*, or carder-bee, however, in its general habits may be taken as a type of the whole species, and forms the subject of the present paper; and the following description of the insect by Mr. F. Smith, who closely studied and observed their habits for upwards of twenty years, may be taken as accurate:—"The bee is very hairy, and the general colour of the female is black, with the face coloured with dull yellow down. The thorax is orange above, yellow on the sides, and grey beneath. The abdomen is more or less banded with black. The male is less than the female, and has the down on the head of pale yellow, becoming black on the crown. The abdomen is yellowish grey, with several ill-defined dark bands. The worker is often barely half the size of the male, and in colour almost exactly resembles the female."

Early in the spring, before the cuckoo makes both hill and dale resound with her dual note, the queen humble-bee forsakes her winter quarters, where she has been quietly hibernating during that inclement season, and may be seen busily searching for some secluded spot where she may construct her nest and unmolested rear her future progeny. How inquisitive she appears as she flits along, carefully examining each mossy bank and budding hedgerow, or perhaps some slight eminence that will be free from flood, amid the flowers and clovers in the meadow grass. Sometimes the deserted nest of the field mouse is chosen for the foundation of the nest; but whatever spot is selected it is done in no haphazard fashion. Hours and even days are sometimes spent before the final site is chosen. Fields newly laid down to red clover seem to have a peculiar attraction. Guided by a marvellous instinct (for the clover, as yet, is but a field of green leaves, and it will be weeks before the blossoms appear), she seems to know that here, at least, she and the future colony will enjoy from the myriad blossoms of the red clover uninterrupted possession of the precious nectar which otherwise would indeed "waste its sweetness on the desert air."*

Having selected a suitable spot, she next proceeds to gather small pieces of moss or dried grass, which are carded and rendered soft and pliable by rubbing between the legs. It is then interwoven together and surmounted by a small dome of the same material. Before the hatching of the first batch of brood this small dome is partially opened during the day in order that the young brood may have the benefit of the genial rays of the sun; but as soon as enough young bees are hatched to maintain the requisite heat in the hive, it is

* Mr Hopkins informs me that on some occasions at Matamata he has seen the Ligurian bees working on the red clover. Whether an abnormal growth of the corolla in certain seasons enables them to do this I am unable to say, but of this I am certain, that in England we have to depend entirely upon the HUMBLE-BEE for the fertilisation of the red clover, and although the function may and is partially performed by other insects, still, without the aid of the humble-bee, the crop would not be worth the trouble of threshing.

permanently closed and rendered impervious to rain and the escape of heat by a coating of wax on the underside.

The opening, or doorway, is situated at the side of the nest, and is so small that the inmates have almost to push their way in. The moss of its own elasticity closes almost together, thus preventing draughts and the consequent chilling of the young brood.

Unlike the wax of pristine whiteness produced by the hive-bee, the wax of the humble-bee is quite coarse and of a dirty brown colour. One writer on the subject has expressed an opinion that it is mixed with earth, a theory, however, which I am unable to verify. A few cells are soon constructed by the queen; not however of hexagonal form, nor of that symmetrical shape found in the hives of our domesticated bees, but somewhat the shape, and nearly the size, of a small acorn with a portion of the top removed. In these rude cells the eggs are deposited, one in each, which soon hatches out into a tiny grub or maggot, and is plentifully supplied with a mixture of honey and pollen. The result of this good feeding is soon apparent, for its growth is enormous, and in a very short time it almost fills the cell. It now begins to envelope itself in a silk-like cocoon, and the cell is then completely sealed over by the mother bee. It passes fifteen days in the pupæ state, and at the end of that time it emerges a perfect worker bee, at first incapable of flight, but in a few days superseding the queen in the general work of the hive—such as cell-building and the care of the young. Nevertheless, unlike the queen of the hive-bees, the queen humble-bee frequently leaves the hive for an airing or for a load of honey and pollen. Cells are now more rapidly constructed, and are used as before for the rearing of brood; and although it is unnecessary for them to lay up stores for winter use, a few are always reserved as receptacles for honey and pollen. The working population now gradually increases, and steps must be taken to enlarge the nest.

Moss must be carded as before, but instead of the operation being performed by a single bee, several now take part in it. Standing in single file, about one-half inch apart, the first bee seizes a piece of moss or dried grass in her mandibles. She quickly rubs it between her two fore-legs, and then passes it back under her body to the next one, who repeats the operation, and passes it back to the next bee, and so on, till at last it reaches the nest, where it is taken in hand and soon used by the builders. The work within the hive now proceeds right merrily, and the building of the nest is soon completed; sentinels, relieved at stated times, guard the doorway, and Godart asserts that there is in every nest a trumpeter bee, who, at early morning, ascends to its summit and sounds a *reveille* of a quarter of an hour's duration with its vibratory wings †. Larger cells are now constructed for the rearing of the males or drones, who, unlike their cousins of the hive, require little attendance and waiting upon, and are content to gather most of their own food, but whether they contribute any to the general store I am unable to say. They seem to be robust, hardy, harum-scarum fellows, of a dissipated disposition often (perhaps for want of a latch-key), stopping out all night and preferring to sleep on the blossom of some flower to returning to their warm and comfortable nest. In the early morning they may be often seen sleeping on the flower of the thistle (which seems to be a favourite resting place with them), looking remarkably like certain individuals who have been imbibing 'not wisely but too well,' or in common parlance, have been making a night of it. Try to wake him up and hear his angry hum as he jars his wings and kicks up his legs, as much as to say, "If I had a sting you should not disturb me." But he is out for the night, and here he must remain until the genial rays of the summer sun has sufficiently warmed his benumbed frame to enable him to fly off home. As to his reception! Well, there are phases in bee as well as in human life on which it is well not to be too inquisitive, and over which, in charity, let us draw a veil.

Later again in the season the young princesses destined to found new colonies the coming spring are brought into existence. In the case of the carder-bees (*B. muscorum*), there rarely exceed a dozen which continue to live in perfect unanimity with the queen and other inmates of the hive. No feeling of divided allegiance seems to trouble them, as is the case with hive-bees, when young queens are brought into

existence. The entire population of a colony of carder-bees rarely exceeds one hundred, but in the case of *B. lapidarius* and *B. terrestris*, however, which construct their nest underground, often in an enlarged chamber excavated at the end of some disused rat or mole hole, the population is much larger. Mr Smith mentions that in a nest of *B. terrestris* he once found 107 males, 56 queens or females, and 80 workers, a total of 343—truly a large population when we consider the difference in the size of the humble and the hive bee.

Towards the end of the season the fertilisation of the young princesses takes place, and the first slight frost is a general signal for breaking up the nest. The young queens fly off to seek a dry, warm, and sheltered spot, perhaps in the thatch of a rick or house, the hollow of a tree, or even in the hole of some dry bank, wherein to pass the winter in quiet sleep, until the warm rays of the April sun shall call them forth to fulfil their round of yearly duties and the propagation of their race.

These harmless and useful insects have, however, many enemies. The badger has an exceedingly sweet tooth, and makes short work of many a nest during his nocturnal peregrinations. Rats and field mice eat also with avidity both cells, brood, and honey. The village schoolboy considers their honey fair plunder, the total destruction of the nest generally attending the robbery.

Now in the case of animals that prey upon the humble-bees we can only regard it as natural, and in the case of schoolboys as excusable, in a greater or less degree; but what shall we say of the British farmer who systematically destroys these insects whenever they can be found? He cannot plead ignorance, for he has been told, over and over again, that without their aid his red clover seed would never come to perfection, yet he does not believe it, and merrily carries on his work of destruction. I would like to take away all the humble-bees, if it were possible, from England, for a few years, and see where the clover seed growers would be then. Here in New Zealand their introduction has proved of great advantage—ay, a national blessing, to the farmer—as may be seen from the following paragraph from the *Canterbury Times* of July 20:—"Thanks to the successful acclimatisation of the humble-bee, red clover can be produced here of the finest quality; and we were this week shown, at the offices of Messrs Miles and Co., about as fine a sample of red clover seed as the eye could wish to see. It was grown in the Ellesmere district, and was threshed and cleaned by Mr Herbert Gardiner, who has specially imported for this purpose a clover thresher and dresser. The seed is well grown, large, and plump, and the comparison is all in its favour when laid alongside samples from the best known and most accredited American and English houses. Up to this time Mr Gardiner has threshed out between five and six tons of locally grown clover, all of which has sampled as well as the one under notice."

When first introduced, many beekeepers were afraid that the humble-bee would overrun the country, and deprive the honey-bees of much nectar. However, there need be no fear on this score; not only will there be plenty of nectar for both, but their introduction should be regarded by the apiarist as an acquisition. There are many flowers whose corolla are so long and narrow that it is impossible for either the hive or humble-bee to enter. In this case the humble-bee pierces the base of the corolla with its strong and pliant mandibles, and thus extracts the honey. The hive-bee soon discovers the puncture and avails itself of the opportunity of obtaining sweets which otherwise would have been inaccessible to them. At home the common horse bean is always pierced in this way by the humble-bees, and I have often watched the hive-bees fly straight for the puncture instead of attempting to enter by the corolla. I trust that these useful insects will receive that attention in New Zealand they deserve, and that they will soon be introduced from the South to the North Island.

Mr Douglas, of Motiti Island, near Tauranga, has already introduced some which are doing well and already proved to have a beneficial effect upon the production of red clover seed, but I fear that the distance, about eight miles, will prevent them spreading to the mainland. The cultivation of red clover seed should form a most remunerative crop, from £10 to £15 per acre and even more should be realised from the seed alone, besides the first cutting of hay; and in this splendid climate of New Zealand no difficulty should be experienced in harvesting the crop, which is frequently spoilt by our wet, cold, and fickle climate at home.

To the naturalist the habits of these insects are full of

* B. Kidd, Longman's Magazine, May, 1885.

† This fact has recently been corroborated by a German naturalist, but unfortunately I have mislaid the paper in which the account appeared.

interest, and anyone wishing to keep a colony for observation can easily do so. A small box should be procured about five inches square and four deep, with a moveable lid and entrance cut out of the side. Into this the nest should be gently lifted, and in the evening, when the bees are comfortably settled, the cover and entrance should be closed and the bees be carried home. They may be kept indoors—a hole corresponding to that in the box being cut in the window sash. They may be most easily examined by lamp light by gently lifting off the moss-covered dome, which will expose both bees and cells, and it is very rarely then that the bees take flight. It is well to place the box against a window that can be easily opened, as often, when examining them during the daytime, the few that fly into the room may be easily released by way of the windows. I must caution my readers against using smoke during these manipulations as it has quite a contrary effect to that produced by its moderate use upon hive-bees. Carder-bees will rarely sting if the nest be opened carefully and undue jarring and disturbance guarded against.

Correspondence.

NOTES FROM HAWKE'S BAY.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

SIR,—I must apologise to you and your readers for omitting to send you a few items last month. The reason is I left it too late to reach you in time for publication. I am sorry that you have been working the *Bee Journal* at a loss, and I will do my best to obtain more subscribers for it. If not, I will forward you a double subscription myself. I would, indeed, be very sorry to see the *Journal* fall through now, because if it did, we would not know anything of what was taking place among ourselves. In entirely rests with the beekeepers of New Zealand to support the *Journal*, so as you, Mr. Editor, will not be at a loss by it. However, I hope every beekeeper or person interested in beekeeping will give the *Journal* their hearty support, and contribute freely to it on matters connected with our pursuit.

There is very little demand for honey at present in Hawke's Bay. It now realises 4d per lb., or 3d in bulk, but the demand for it is very poor indeed. I am sorry to say there is a deal of honey imported to Hawke's Bay which is simply rubbish, and not honey at all. I think it would have been better if a heavier duty was imposed on such-like stuff.

Most of the careless beekeepers' bees around here have died out through foul-brood disease, and after a deal of persuasion I have got them to destroy their old hives, and I am now glad to say that careful beekeepers are working along a little more comfortably than before.

Both the members for this district and Woodville have promised faithfully to support the passing of a Foul-Brood Act, so I think there will be no difficulty in the matter.

You must excuse me, Mr. Editor, for such a short communication this month, but you know this is the dulllest time of the year for bee news.—Yours truly, A. H. PARKINSON.

Hampden, Hawke's Bay, July 9, 1888.

[Many thanks for your proffered assistance; and our friends, we know, are doing their best, and we feel thankful.—ED.]

BEE-KEEPING.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

SIR,—Perhaps a few remarks from an inland town in New South Wales, from "an amateur," will prove of interest to your many readers. I was very sorry to see, by a recent number of your *Journal*, that it was not a financial success, which is much to be regretted. Why men who take an interest in beekeeping will not support such a valuable and instructive *Journal* is a mystery to me. It is always interesting, and contains a large amount of useful information.

I will now relate my little experience in apiculture. I have always taken a great interest in the "little busy bee," but for several years past I was not in a position to keep any bees, owing to my residing in Sydney. However, as I removed to Mudgee, I resolved last year to get a few hives; consequently about the end of September I bought a young swarm in a gin case. They did remarkably well, and sent forth a splendid young swarm on the 20th November, which I consider was very good. In the meantime I bought some other swarms, and also two Langstroth hives in Sydney—a Standard, and a plain one. The new swarm I placed in the Standard, but I

found great difficulty in getting them to take to it, for the simple reason that the hive was very badly ventilated, and in the heat of the day the bees would come out and cluster on the outside. To try and prevent this I covered the hive with bushes, and bored a hole with a large auger in the top partition, and put in a piece of perforated zinc, so as to give more ventilation. It had the desired effect. The entrance was also very small, and I cannot understand why there is such a large entrance and ventilation in the plain Langstroth, and not in the Standard. I tried a swarm in the plain Langstroth without putting in any foundation comb, but they would not stop. I tried another with the comb in, and they took to it at once. I secured some other swarms, and at the close of the year had nine hives. I did not experience much difficulty with the bee-moth, although there were a good few about; but they had rather a rough time of it. I destroyed every one that I possibly could. I also took care to have all my boxes sitting level, which means a great deal, as the moth has then only one way of entry, and as the bees are always about the hole, his lordship finds some difficulty in gaining an entrance. I only lost one hive through the moth; but I am not in the least afraid of it. Keep good strong swarms, and the moth will make but very little headway.

The past year has been a splendid one for honey, all the hives being weighty. I robbed most of mine, and the supply of honey was really good. What the incoming year will be I do not know, as the winter has been very dry, and consequently there is very little animation in the vegetable kingdom. What we want now is a good fall of rain, which would produce abundance of flowers, and start the bees gathering from the various species of gum trees, &c., in this district. I expect some fine swarms about the beginning of October. My bees work now very well in the middle of the day.

Trusting you will find room to insert this,—I am, yours, &c., Mudgee, N.S.W., August 16, 1888. W. SHAW.

[The entrance in the regular Langstroth hive can be regulated in a moment to any size required, and any hive that will not allow of this being done is certainly not to be recommended.—ED.]

THE LATE HONEY SEASON.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

SIR,—In reading Mr. Mulvany's article, I have been struck by the singular fact that the two seasons he mentions as being the worst in his experience, 1884-5 and 1887-8, were the best in this district, while the intermediate seasons of 1885-6 and 1886-7, particularly the former, which in his report of July, 1887, he describes as being far above the average, were the worst we have had here. With 1886-7 he expresses himself as disappointed, having had an average of only 82½ lbs.; my average for that season was only 48 lbs., a difference sufficiently marked to justify its being included in the same remarkable contrast.

Results such as these would seem to preclude the possibility of arriving at any idea of the coming season's yield in any particular part of New Zealand, founded on the yields in the Northern Hemisphere for the season preceding ours.

Reverting to the weather in the seasons referred to, that of 1884-5, our best season, was mild and showery throughout, and the flow was uninterrupted from October to March. 1885-6 and 1886-7, were seasons of drought, while that just closed followed a very wet winter and continued cold and wet till the beginning of December; but was marked by an unusually late and prolonged bloom of thistle extending right into March.

I agree with Mr. Mulvany that it would be a good thing if our beekeepers would be more ready than they are to publish the result of their season's work.

I would like also to see a "Directory of Beekeepers." It would be of service to purchasers of honey to know the names and addresses of beekeepers, and the number of hives kept, and it would serve as a guide to intending beekeepers where to locate themselves. I have no doubt many of us would like to know who are our brother beekeepers. Could we have a list of owners of 50 hives say and upwards?

We have had a very beautiful winter here, the driest and warmest for ten years, and bees have wintered much better than last year.—I am, yours truly, GEORGE STEVENSON.

Taraheru Apiary, Poverty Bay, 15th August, 1888.

ADULTERATION OF HONEY IN AMERICA.

THE "Dairy Commissioner" for New Jersey, U.S.A., has, it appears, been lately giving his attention to the analysis of a large number of samples of honey, with the result that out of forty-two he only found seventeen pure, six of the latter being credited to packing houses, and the remaining eleven to beekeepers. The other twenty-five adulterated samples were from packing houses. Though we have long been satisfied that adulteration of honey is carried on to a large extent in America, we were scarcely prepared to learn that so much is foisted upon the public. It is very satisfactory to find that every sample put up by beekeepers—according to the *Beekeepers' Magazine*—turned out pure. The editor of the *B.K.M.* has done the beekeeping industry a good service by publishing the report, and fearlessly exposing the

frauds, for now that the enemies have been dragged from their concealment there will be a better chance of fighting them.

We give the report, as taken from the *Beekeepers' Magazine*, below. There is, however, one thing connected with it that needs a little explanation to make it clear. Comb-honey is mentioned in three different places as being adulterated. This has puzzled us not a little, and the only conclusion we can come to is? that the samples are pieces of comb-honey cut from frames or sections, packed in fancy glass jars, and surrounded with clear glucose such as used to find a ready sale in these colonies some years ago. In this case the comb-honey must have been genuine before being put in the glucose. It is out of the question to suppose that glucose has either been forced into the comb or that the bees have assisted in the perpetration of a fraud, as in the one case it cannot be done and the other would not pay.

OFFICE NO.	WHERE PURCHASED.	NAME ON LABEL.	RESULT OF ANALYSIS.
57	Paterson ...	Wm. Thompson, Wayne Co., N.Y., "choice comb honey" ...	Adulterated
58	" ...	McCaul and Hildreth Bros., N.Y. City, "white comb honey" ...	Adulterated
59	" ...	Same as 58 ...	Adulterated
56	Hoboken ...	Ritter, Philadelphia; no label ...	Adulterated
60	" ...	Wm. Collins, Worcester, N.Y., "choice comb honey" ...	Adulterated
61	Jersey City ...	J. V. Sharp Canning Co., Williamstown, N.J., "clover honey" ...	Pure
62	" ...	Wardell and Watson, Brooklyn, N.Y., "white clover honey from the apiaries of Central New York; warranted pure" ...	Adulterated
76	Newark ...	J. T. Dunham, "superior quality of clover honey" ...	Adulterated
77	" ...	Thurber, Whyland and Co., N.Y., "pure California white sage" ...	Pure
78	Hoboken ...	E. A. Walker, Greenpoint, L.I., "superior XXX honey, warranted pure" ...	Adulterated
79	Jersey City ...	Wm. Collins, Worcester, N.Y., "choice honey" ...	Adulterated
80	Hoboken ...	E. A. Walker and Bro., 135, Oakland-street, Brooklyn, N.Y., "choice honey" ...	Adulterated
81	Newark ...	Charles Israel and Bro., N.Y., "choice California honey" ...	Adulterated
82	" ...	C. G. Leslie and Son, Pittsfield, Mass., "choice extra clover honey" ...	Adulterated
83	" ...	"No Name," said to be Ritter ...	Adulterated
84	Hoboken ...	Geo. D. Powell, "choice extracted Northern" ...	Adulterated
85	Newark ...	Wm. Thompson, Wayne Co., N.Y., "choice golden rod honey" ...	Adulterated
86	Hoboken ...	E. F. Watson, Brooklyn, N.Y., "pure California honey from groves of San Diego, there is none better" ...	Adulterated
87	Paterson ...	McCaul and Hildreth, New York, "choice extra honey" ...	Adulterated
88	" ...	Code, Elfelt and Co., San Francisco, "extra choice Los Angeles" ...	Pure
89	" ...	Frank Charters, New York, "white clover honey" ...	Adulterated
90	" ...	F. G. Strohmeier and Co., New York, "pure orange blossom honey; is absolutely pure, no glucose" ...	Adulterated
91	" ...	Wm. Thompson, Wayne Co., N.Y., "choice golden rod" ...	Adulterated
92	" ...	Andrew Jackson, Deposit N.Y., "pure honey" ...	Pure
1416	Burlington ...	R. J. Dutton ...	Pure
1417	" ...	Sleeper, Wells and Aldrich ...	Adulterated
1418	" ...	Arthur Todd, Philadelphia ...	Pure
1424	" ...	Arthur Todd, Philadelphia ...	Pure
1425	" ...	Western honey ...	Adulterated
1427	Bordentown ...	L. K. Allen, farm honey ...	Pure
1429	" ...	Wm. Collins, Worcester, N.Y. ...	Adulterated
1431	" ...	Slipps and Sons, farm honey ...	Pure
1432	" ...	S. Garrison, farm honey ...	Pure
1434	Trenton ...	Wm. E. Johnson, Moorestown, N.J. ...	Pure
1435	" ...	S. I. Robinson, farm honey ...	Pure
1436	" ...	S. Holcomb, farm honey ...	Pure
1437	" ...	F. E. Erends, Dentsville ...	Pure
1438	Camden ...	Brown and Bros., State honey ...	Pure
1439	" ...	Arthur Todd, Philadelphia ...	Pure
1440	" ...	Wm. Collis, Worcester, N.Y. ...	Adulterated
1441	" ...	Gifford and Stiles, State honey ...	Pure
1442	" ...	Philadelphia Pickling Co., "virgin honey" ...	Adulterated

Since the above was in type later American journals have come to hand, and the "Adulterated comb honey" proves to be just what we suspected.

TELEPHONE No. 370.]

[TELEPHONE No. 370.

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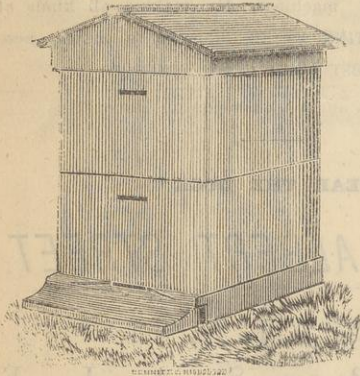
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