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# THE NEW ZEALAND AND AUSTRALIAN BEE JOURNAL.

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**CONTENTS.**

	Page
<b>EDITORIAL—</b>	
CALENDAR—January ... ..	73
The Increasing Demand for Honey in our Local Markets ... ..	74
Meteorological Observations... ..	75
<b>SPECIAL ARTICLES—</b>	
Climate and Bee Culture ... ..	75
Shows and Exhibits of Bee-Keeping Appliances ... ..	76
Some Requisites of a Good Hive ... ..	77
Mems. by an Old Bee-Keeper ... ..	77
Apiary Book-Keeping.—Produce Register ... ..	78
<b>CORRESPONDENCE—</b>	
The Standard Frame ... ..	80
Bee-Keeping in Victoria ... ..	80
Box for Hiving Swarms ... ..	81
Swarming Box, Honey Market, and other items ... ..	81
Bee-Keeping North of Auckland ... ..	82
Ce n'est que le Premier pas qui CouÙe ... ..	83
Making a Start ... ..	3
<b>FROM OUR CONTEMPORARIES—</b>	
Extracting and Curing Honey ... ..	84
South American Bees ... ..	85
<b>QUERIES AND REPLIES</b> ... ..	85
<b>METEOROLOGICAL OBSERVATIONS</b> ... ..	86
<b>HONEY MARKETS, &amp;c.</b> ... ..	86
<b>SPECIAL NOTICES</b> .. ..	86



**CALENDAR—JANUARY.**

ALTHOUGH there has been a considerable improvement in the weather since the first week of December, still it could not by any means be termed seasonable; the temperature has been a great deal below the average for the first month of summer, and even when not raining the sky has been overcast most of the time. The absence of clear sunshiny days during the past few months has been most remarkable, and now that we have entered into the second month of summer they are the exception and not the rule as in ordinary seasons. The yield of honey from clover and other flowers has been much better during the last three weeks, though very small compared with the same period last year, which is attributable to the scarcity of sunshine, this being the most important factor in causing the development of saccharine matter in flowers and fruit.

With regard to surplus honey, we expect to hear of very little being taken in New Zealand this season, for the unfavourable weather has been general throughout the Colony. Probably in sheltered districts near the sea coasts, where the late frosts were not so severe as to materially interfere with the growth of clover, etc., honey has been more plentiful than inland; but, at any rate, nothing like an ordinary crop will be secured anywhere. With the present outlook and two months and a half of what is usually the best part of the honey season gone, we cannot expect much to be done in the way of storing surplus honey, and we would advise bee-keepers to be very careful and not deprive too close, except they are prepared to feed up for winter. To make sure of having sufficient for winter, it would be better to store enough frames of honey away as would answer the purpose before beginning to deprive, in case the season should suddenly close; unless the English plan is adopted, i. e. depriving close and feeding up for winter with sugar syrup. At Matamata there are plenty of white clover blossoms about now, but nothing like the quantity there was last year at this time, still honey is not very plentiful; instead of a fair swarm building out the 10 sheets of foundation in a week or less, it takes the bees nearly or quite three weeks. Judging

by appearances at present, we do not expect to get more than sufficient honey to make a good winter's supply. We have increased a little by natural swarming, bringing our stock up to 195; we do not intend to let them exceed 200 at most this season.

The instructions already given with regard to securing surplus honey, will apply to this month. Particular attention should be paid to the ripening of honey, if extracted, before it is capped, and also that all section honey is sealed before being removed from the hive. Honey, whether comb or extracted, should never be stored away in a damp place, as it has a great affinity for water, and the result of dampness is fermentation.

The honey-house or room where honey is to be stored should be well ventilated, and have at least two windows or openings, through which a current of air could pass. These should be covered with wire netting, having meshes sufficiently small that a bee could not pass through. If the netting is tacked on to a light frame, and the frame hung on hinges so that it can be opened when required to let out any bees that will occasionally get in, it will be all the better. If a house is built for this purpose, it need not be a very large one, just sufficient to accommodate the tanks required, and allow of the extracting and uncapping being done in it. The roof should be close boarded immediately under the shingles to prevent bees and dust getting in, and a few shelves nailed round on which to stand comb honey in sections. It would be an advantage to have a large sliding door at one end, through which a good-sized cask could be rolled. A house of 20 x 12 would be a good size for an apiary of from 100 to 150 hives.

#### THE INCREASING DEMAND FOR HONEY IN OUR LOCAL MARKETS.

Two of the principal questions that will naturally arise in the mind of a person who contemplates going into bee-culture extensively, are—first, will there be any difficulty in selling all the honey I raise? and second, where can I expect to find a market for it? In answering the above questions we shall deal simultaneously with both and proceed to show that our local markets offer splendid opportunities for the ready sale of all the honey we can raise.

In 1879, when first introducing the improved system of bee-culture into New Zealand—we believe we can correctly say the Australasian Colonies—and making it known through the local press, many persons spoke and wrote to us in the following strain:—"You say that tons of honey may be raised under the new system by bee-keepers in New Zealand, where comparatively little was produced before; if this is correct, what are we going to do with it when we have raised it, we can never sell such large quantities?" Our answer was: "Do not let that question trouble you, go to work and raise a good article of honey, and you will not require to ask me what you are to do with it when you have some to dispose of; there will always be a ready market for it at a remunerative price." It might be asked, how did we know that? Well, in the first place we had previously some little experience of selling honey, and in the next place we had closely watched the honey markets in those countries where the progress of bee-culture was most rapid, and found that the demand

kept ahead of the supply. The knowledge of this made us feel confident that the demand would increase as rapidly in the Australasian Colonies as it had done elsewhere directly the *pure* article was placed upon the market. As examples of the rapid development of supply and demand, we may take the United Kingdom and America. We have no hesitation in saying that for every pound of honey raised in those countries a few years ago, there are thousands produced now, but the demand has more than kept pace with the supply, for it appears to be farther from being satisfied than ever. This, of course, is entirely due to the improved system of raising the honey, which enables the bee-keeper to place before the consumer the pure nectar itself, with its original aromatic flavour untainted, instead of the vile rubbish that formerly was obtained.

As a further proof that there is always a large and growing demand for the pure article, we can take our own experience with regard to local markets. Previous to the season of 1878-79 we had never seen or heard of any honey of local production being placed upon the market at the Thames, save a little brought in by Maoris in buckets and kerosene tins. Although we had for years raised several hundred pounds each season from the few hives we kept for amusement, all we could spare was at once bought by our neighbours, so that we never had occasion at that time to put any on the general market. The demand for and supply of the Maori article was very small indeed, we do not believe it exceeded 150lbs., or at the most 200lbs., a year. Very few bees were kept by the residents, and probably 150lbs. would more than cover the amount raised by them, so that, assuming our figures to be correct, and we are certain we have given the outside ones—with the exception of what was raised by ourselves—there could not have been more than 300 to 350lbs. of locally-produced honey consumed in twelve months, amongst a population of over 5000. Of the imported article we cannot give figures, but believe the sale was very small, limited quantities only being bought for medicinal purposes. In the above season we commenced to increase our bees, went into bee-culture as a business, and raised about three quarters of a ton of honey, which was sold as fast as we could take it, in fact a great deal was bespoke before we had taken it off the hives; at this time we had all the modern appliances in use, which enabled us to put on the market a superior class of honey. In the following seasons there was a considerable increase in the number of bee-keepers who, as well as raising honey for home use, were sending some to market, and in 1882, when we left, as near as we could calculate, the annual consumption at the Thames had risen in about three years from 350lbs. to over three tons, although the number of population had in the meantime decreased considerably; the demand for the local article at this time being greater than ever. What occurred in this market we think may reasonably be taken as a criterion as to what will take place in other local markets under similar circumstances.

There is scarcely any limit to the uses that honey may be put to; when it can be bought in large quantities at about the price of sugar, it will take the place of that article in many manufactures. The manager of a leading brewery has told us more than once that when we could guarantee to supply him with a few tons each season he would be prepared to take it for brewing

purposes in preference to sugar. If one brewer prefers honey to sugar, we suppose others do; if so, this would open up a market for an enormous supply. Then jam-making, fruit-preserving, and confectionery-making may be reckoned upon as large outlets for surplus honey.

As a still further proof, if it were required, of the increasing demand for honey in our local markets, we may state we have lately had enquiries for large quantities; one firm asks if we can supply ten tons, another would be prepared to take our season's crop on the supposition that it would amount to several tons, besides enquiries for smaller parcels; we believe we could easily place locally from 20 to 30 tons at the present time if we had it. We consider we have now stated sufficient to clear away any doubts existing in the minds of Australasian bee-keepers as to the probability of finding a ready sale for all the honey they can produce, and to convince them that there need not be any fear of a glut in the markets of the pure article.

### METEOROLOGICAL OBSERVATIONS.

It has been suggested that the monthly publication of meteorological reports would tend to make the JOURNAL more complete, as these reports could be used for purposes of comparison in the future to show the influence of the weather on the production of honey. As we take the same view of the matter, we shall, in future, publish them. In order to make the first volume complete we have obtained from T. F. Cheeseman, Esq., the reports from July last, which will be found in this issue. We have only given the means for the month and the average for previous 16 years, as these will be found to answer all requirements.

### CLIMATE AND BEE CULTURE.

BY T. J. M.  
(Concluded.)

BESIDES the influence of moderate temperature upon the growth of honey-producing plants, there are other considerations which lead to the conclusion that a certain medium between the extremes, both in the winter and summer seasons, must prove the most favorable to the main object of bee-keeping—the obtaining of surplus honey. In countries with very cold winters, even in the most temperate parts of Germany and Great Britain, the chief difficulty with the apiarist is the wintering of his bees. He cannot expect them to gather food for their own sustenance, much less for storing, and his chief care is to keep them confined to their hives, and if possible in a state of complete torpor for nearly three months of the year; what he most dreads is that they may be tempted by a short spell of bright sunshine to leave their hives, very probably to lose their lives if snow be lying on the ground, or happens to fall while they are out, and in any case to be roused to a condition of unprofitable exertion which can have only one result—the increased consumption of their stores. Probably the most unfavorable position of all is that of a winter season not severe enough to keep the bees entirely confined, but still during which they can gather no food, and are liable to be lost during their flight, owing to falls of snow or heavy cold rains. On the other hand, in tropical climates there is no cessation in the activity

of the bee at any season—it continues to gather more or less honey all the year round—but, as might be expected in such a case, there is less tendency to lay up a store of surplus honey for a time of scarcity, and yet it is exactly this natural instinct of the insect which must be skilfully cultivated and taken advantage of by the bee-keeper in order to obtain the best results from its industry. It is easy then to understand the fact alluded to by Mr Fullwood in his interesting paper upon "Apiculture in Queensland," in the October number of the BEE JOURNAL, when he says, "The winters being so mild, breeding and honey gathering seldom ceases. The swarming is more regular, spread over a longer term, but probably will rarely ever be so large as in many other places."

As to very low or very high summer temperature, it may be assumed that in any part of the world where the winter is not too severe to admit of bees being kept at all, there will be a sufficient summer heat to allow of a more or less suitable season for breeding, swarming, and collecting honey. In very warm regions, however, the increased heat of summer is more likely to be conducive to the two former results than to the latter. Here again we can easily follow Mr Fullwood when he tells us in the paper above alluded to, that Queensland is "a grand country for the multiplication of stocks," and goes on to mention a case of one stock increasing to eleven in the same season. From another source I learn that when bees were first introduced into Rio Grande in S. America, a place with a climate very similar to the northern part of Queensland, "two stocks increased in the first year to 28, and of these 23 which were retained in the same place, increased in the second year to 377 swarms." But these are results not at all likely to be compatible with the main object of collecting surplus honey. I have an idea (which I admit is not as yet sufficiently tested by experience) that it may in practice be wiser, even with a view only to production of honey, to encourage *one* swarm from each stock in the season, rather than endeavour to keep down swarming altogether. If the stock has got through the winter strong enough to give off a *good* swarm (say six or seven pounds weight) very early in the season, then I think it very likely that such a swarm, which will most probably be led by a good queen, if hived upon comb-frames or comb-foundations, will be able to take advantage of the proper honey season, while the stock left in the mother hive, with a young queen, will probably do the same; but all after-swarms (of probably two or three pounds weight each) only tend to weaken the mother hive, and are of little use (unless two or three of them can be successfully united) in forming a new stock for the same season's work. In the cases alluded to of an increase of stocks, eleven to sixteen-fold in one season, most of the swarms must be of this small class, and although such a state of things may be very valuable for purposes of queen-rearing for instance, it is certainly not desirable with a view to production of honey.

It may also be interesting to enquire whether or not, in certain cases, the latitude of the place, and the consequent length of the summer day, may exert an influence on the natural production of honey and the power of the bee to store. If we compare the climate of Otago in New Zealand with that of Edinburgh in Scotland, we shall find that the mean summer tem-

perature is the same in both places—58deg.; but in Otago the winter temperature (42deg.) is four degrees higher than that of Edinburgh (38deg.), and is, in fact, equal to that of North Italy. This would lead us at once to assume that Otago is much better suited for bee-keeping, owing to the great mildness of the winter. But, on the other hand, Edinburgh lies ten degrees farther from the equator, and enjoys therefore much longer summer days with the same average temperature. Is this an advantage of any importance? Even Bergen, on the west coast of Norway, in latitude 60deg., has the same summer temperature of 58deg., though with a winter temperature 2deg. lower still than Edinburgh. Now there can be no doubt that a summer in that latitude, where the longest day has about 20 hours of daylight, and so much twilight that there can scarcely be said to be any actual night, must be a very different thing from one at Otago with the same temperature, but with only about 15 hours of daylight, and very little twilight at its longest day. But does it follow that the former is therefore better suited for bee-culture? Hours of daylight and hours of sunshine are two different things; the circumstances of the two places as to cloudiness of sky, moisture, natural vegetation, &c., may be, and no doubt are, very different; but we want to know all the facts of such cases, and how they affect the question proposed.

As to the different sorts of bees, it is clear that the Ligurian, Cyprian, and especially the Holyland races, all come from countries from which have a much milder winter and much hotter summer than the home of the German or black bee. This suggests the question, Can the former be used *with advantage* in countries where the winter temperature is very low, or the latter in others where the summer heat is excessive? It may possibly be found that, for purely climatic reasons, the Holyland bee is best suited to places like Queensland, where there is a tropical heat in summer; the German bee to places with a low winter temperature, such as Otago and the south of Tasmania; and the Cyprian, or Ligurian, bee to intermediate climates. I do not venture to form opinions on those subjects, but merely throw out suggestions which appear to me to be worthy of investigation. The best material for forming a correct judgment on all such points will be *accurately-kept accounts* of the results of apiaries conducted upon the best system, in different climates, and with different races of bees. To point out the practical use of keeping and freely publishing such accurate records has been my chief object in this paper.

There is another observation which strikes me to be worthy of notice in connection with this question of climate. All the principal honey-producing countries in the old world lie within, and the best of them nearly central, in the so-called "northern zone of evergreens," in which flourish the vine, fig, orange, lemon, and olive, as well as the almond and walnut. Nearly all the Australian colonies, and the greater portion of the New Zealand islands, lie within the corresponding southern zone, and the district of Victoria, and the northern part of the Auckland province, may be taken to represent the centre of that zone. We are apparently only now awakening to the conviction that the profitable cultivation of all those fruits is within our power. This is an occupation which goes very well hand in hand with that of the apiarist; the produce of these classes of fruit

trees is the best suited for exportation. The facilities for the transport of such produce from the colonies to England are becoming every day greater. London alone seems to possess an "omnivorous maw" capable of receiving everything of this class we can send; and the supplies of honey and such fruits as I have mentioned coming from this Hemisphere are the more valuable, as arriving during the season when the harvests of the northern countries are no longer upon the market. There is no other territory on this side of the globe to compete with New Zealand and Australia except, in some degree, the Cape Colony of Africa, and a small portion of South America, in which latter, however, the inhabitants are not of such an energetic and enterprising class as to be very dangerous rivals. The field open to our exertions, in turning to account the natural advantages of our best-situated districts in the manner above indicated, would therefore appear to be one of great promise.

### SHOWS AND EXHIBITS OF BEE-KEEPING APPLIANCES.

BY L. J. BAGNALL.

THE Auckland Agricultural and Pastoral Association has very kindly afforded an opportunity for several years past for showing hives, and other appliances for the apiary. A few persons have taken advantage of this, and although the result has not been altogether satisfactory, still I think good has been done. I should like to see more done in connection with this matter as I feel persuaded that a very creditable show could be made, which would do much to educate the public in the use of modern appliances as well as in the class of honey which can be produced by them. One great objection to bee-keepers availing themselves of the Agricultural Association's Shows in November, is that this is their busiest season. A time when the bee-keeper has no honey, unless it is a year old, to show, and when he does not care to be long away from home on account of his liability to lose swarms during his absence.

I think March would be a good month for bee-keepers to make a display, and as I understand that the Auckland Gardeners' Horticultural Society intend holding a Show during March of next year, it seems to me that it would be a desirable thing for bee-keepers and apiarian supply dealers to join with them, and make such a display of their wares as has never yet been made in this Province or in the Colony. In Great Britain and America, bees and honey have been the great attractions at such Shows, and would be here if proper conveniences were afforded for showing them. The different races of bees could be shown in observatory hives. Honey in all the varieties of style in which it can be got up. The different varieties of hives, extractors, and the numerous other appliances. In addition to these, an exhibition of the art of handling and manipulating bees could be given, which would be interesting and instructive. An American paper, speaking of a Show held in St. Joseph, Mo., says:—"Few things last week brought us so many pleasant and profitable things combined, as the display of honey made at the fair, and the lecture of Mr Newman, of Chicago, on 'Bees and Honey.' The attention given to the subject this year marks a new era: the display attracted very great attention; good prizes were offered and awarded; the bee-keepers



of the region were encouraged, and a more general interest was aroused in the subject. The lecture was very practical, and contained many hints that are invaluable. But practical as it was, the pleasure of the apiary as well as the profit was told; for Mr Newman is an enthusiast, as, to use his own words, all bee-keepers are." It would afford an opportunity for bee-keepers to meet and make each others acquaintance, and possibly a Bee-Keepers' Association might spring out of it.

Hape Apiary, Thames, Nov. 12, 1883.

[Some short time previous to the receipt of the above we communicated with the Secretary of the Auckland Gardeners' Horticultural Association pointing out the advisability of including in their schedule of exhibits for future Shows, a class devoted to bees and their products, and apiarian implements. In almost every county in the old country bee exhibits in connection with the various Horticultural and Agricultural Shows have become quite an institution; and the "bee tent," in which bee manipulations are carried on by experts, is now one of the principal features at these Shows. We have not the least doubt that if the above and similar Associations were to follow out the plan adopted in Great Britain in this matter, they would find it the means of adding considerably to the attractions and increasing very largely the revenue derivable from their Shows, and at the same time give an impetus to the honey industry.—Ed.]

#### SOME REQUISITES OF A GOOD HIVE.

BY DUNOON.

Now that scientific bee-keeping is coming to the front as a local industry, and a large number of bee-keepers in Australia and New Zealand are considering the advisability of transferring their bees from the box-hive in the shape of gin-case, soap-box, or other nondescript box to the frame-hive, it is well to keep in mind that a frame-hive, whether it be a Langstroth or any other of the numerous varieties of it, may be well made, or indifferently made, or even very badly made; and this will apply not only to the hives made altogether by the bee-keeper from plain timber as it comes from the saw, but to hives bought ready made-up or in the flat. The readers of the JOURNAL will thus see that, in order that they may be able to say that they have a good hive, they ought to know a little as to what constitutes a well made hive, no matter what variety of frame hive it may be.

It ought to be almost unnecessary to say that the first requisite of a good hive is that the timber from which it is made be thoroughly well seasoned and free from warping; carelessness regarding this point will lead to continual trouble and annoyance. The next requisite is that every part of the hive should be so accurately cut as regards the length, breadth and thickness that it shall be the exact counterpart of the same piece in all the other hives in the apiary, and be, if necessary, interchangeable with it. Notwithstanding that this is a point which is more or less clearly laid down in all "Bee Manuals," the average bee-keeper appears to think that any variation less than a quarter of an inch is not very bad, and if it is not more than an eighth of an inch it is first-class. In America, where

scientific bee-culture has been most highly developed, careful hive-makers are of opinion that all measurements ought to be correct to the one-thirty-second of an inch. The relation between the top bars of the frames and the frame rabbets should be such that, whilst every frame should be *easily* moveable from side to side, there should be but the very least capability of movement from end to end, merely sufficient to allow of the frame being easily lifted up or down without catching when held exactly perpendicular to the hive. The rabbets formed for connecting the brood-box, the surplus-box, and the cover be exactly the same width, so that they rest upon each other on the inside surface of the hive as well as the outside, and the depth of these rabbets should be such that, whilst they can be easily placed on or taken off each other without jolting or jarring the bees, there shall not be any unnecessary freedom of movement as this would involve the existence of an open space between the rabbets of the two portions in position; this requisite, the careful cutting of these junction-rabbets, as they may be termed, is one requiring the utmost attention of bee-keepers. I have seen them cut in such a manner (and that, too, by bee-keepers who professed to know all about bee hives) that they appeared to have been purposely designed to afford to the bee-moth larvæ, and other enemies of the bees, a perfectly safe harbour of refuge when pursued by the legitimate occupiers of the hive, inasmuch as whilst there was not the slightest hindrance to the pursued entering the harbour, it was an utter impossibility for any bee to follow; and this is in direct opposition to one of the most important requirements of a good hive, viz., every part of the hive open to an enemy of the bee should be equally open to the bee.

All hives which do not possess the above requisites should be at once condemned and rejected, as they can never be really good hives without an immense amount of labour from the bee-keeper, frequently more than the whole hive is worth, seeing that the defects may cause the complete loss of the bees contained in the hive.

The bee-keeper, having secured a good hive, should see carefully to its being well put together and then well kept; an occasional or a periodical coat of paint is cheaper than a new hive.

4th November, 1883.

#### MEMS. BY AN OLD BEE-KEEPER.

In 1849 my health was so broken down that my medical adviser said: "You must give up business, or you will soon want a wooden surtout;" and at the age of 33 I was compelled to leave my native home, Manchester, and an active life, for a quiet one. In 1851 I bought my first stock of bees, in a common straw hive, from a Mr Ancell, who, at that time, drove the mail from the General Post-office, Le Grand, to Barnett, north of London. Being little from home I devoted much time to my bees, and found that bee-keeping, and the study of their habits, etc., was a most fascinating pursuit, and from that time to the present, whenever practicable, I have always had some few hives of bees. I soon got from the common straw hive to Payne's straw hive, and from that to Taylor's bar hive, with slides between the bars. These slides were a great trouble, as the

bees cemented them so effectually to the bar that many of the slides would break before they would slide out. I had to remove some sixty miles; my bees were sold. When settled in my new house I bought a stock in a straw hive. During my residence there we had a hen under a coop with some chickens, about a dozen yards away from the bees; one day, hearing the fowl screaming lustily, we ran into the garden to find the hen out of the coop and rushing wildly about with some hundreds of bees flying after her, and looking like the tail of a comet. After some trouble I got hold of the hen, and it appears the bees' enmity was directed solely against the poor fowl, as none of us got a sting in running after and trying to catch her; we took her in doors, and must have taken out nearly a hundred stings from her head; strange to say she recovered.

My disease, a tumor in the neck, required another operation under chloroform, and again I was advised to remove, this time to Jersey, where we lived some years. During my residence there I spent a great deal of my time sea-fishing, and where, in a most unexpected way, I got cured of my expensive and troublesome companion, the tumor. For four or five years of my residence in Jersey I had several stocks of bees, which were placed on a bank some six feet above a garden walk. One day an English farmer called to have a view from my garden, as from it we could discern with a glass any object moving on the near coast of France, and every vessel that went in and out of the harbour of St. Helier's. As this farmer was about to pass under the bees I said to him, "Take care of them!" "Oh!" he replied, "they never sting m-e-e." The "e" was a prolonged one, and his arms and legs went to work like the arms of a windmill. Unfortunately for his confidence in his safety, one had stung him on the tip of his nose, and the next day that nose looked like the nob on an iron pumphandle. I left Jersey in 1860 to reside at Dartmouth, in Devon. Here again I had my bees in a small out-house in the garden; I cut two holes between the bricks for entrances through the walls, lifted up the lower sash of the window and put two half-inch laths under it, leaving a space of five inches in the centre for the bees to enter by a covered way into the hives; this passage was covered with glass, and each hive had a pane of glass in the back, so that I could see every bee go out or in, and something of what was going on inside the hives. I think it was in 1861, Mr Woodbury was advertising the Ligurian bee at five guineas per stock, but he wrote me, "as we consider you half a professor, your price will be £2 2s," so I bought my first stock of Ligurians. They were placed in the centre, with passage under the window, and very pretty the yellow jackets looked. They came in one of his wood bar and frame hives with a sheet of perforated zinc tacked over the bars. I united two of my stocks to make room for the Ligurians, and the next morning I went as usual to pass two or three hours looking at the bees. At the back of the united stock hive was one of the queens, surrounded by about a dozen bees, and, to my astonishment, I saw one of the working bees deliberately sting the queen. It was at that time a fact so little known that I was actually afraid to write to my friend, Woodbury, and state what I had seen for fear he would not believe me, and it was not until some months after, we were talking together, when he said: "I have had proofs from several persons that

they have seen the bees sting the queen bee," and then for the first time I related what I had seen. At the end of '61, or spring of '62, I engaged for the literary institute Mr T. Fox, of Kingsbridge, to give a lecture on bees, and I sent to the hall a bar and frame hive and supers, and various appliances then in use by good apiarists. In the course of his lecture, Mr Fox described the various straw hives, including Mr Golding's straw bar hive, also a square wood telescopic hive, his own invention, and with which he had been very successful in practise. To my astonishment he spoke against the bar and frame hives. When the lecture was over many questions were asked by the audience; one was "How far will bees fly in search of food?" this I had to reply to for him. The answer was: A gentleman walking out in a lonely district observed bees at work in a field of turnips in flower; it struck him as very singular, and after thinking over the subject, he called upon the only person that he knew who kept bees, and he lived nearly four miles distant from the turnip field, and taking with him two common tin-pepper dredgers, one containing a pink powder, and the other a blue powder, it was arranged that precisely at a certain time the owner of the bees was to dust the outgoing bees with the pink powder, and the gentleman to dust those he saw with the blue powder. This was done, and within twenty minutes of the time agreed upon the blue-powdered bees returned to the hive, and the pink ones made their appearance amongst the turnips; thus proving that bees will travel from three to four miles for food.

Ngaroto, Nov., 1883.

(To be continued.)

### PRODUCE REGISTER.

This form, if adopted, should be printed folio size, with 60 to 80 blue-ruled lines for dates (as there will probably be nearly that number of extracting days at a large apiary with 100 hives or more), so that the work of the whole season may, if possible, be shown on one sheet, and so save necessity of carrying forward the totals, and continuing on another sheet, as far as the 25 hives are concerned.

I think it better to limit each folio to, say, 25 hives, as in this example, than to extend the length of the paper and tire the eye by following up a large number of columns. An apiary with more than 25 would, of course, require two folios—one of more than 50; three, 75; four, and so on; four for each 100 hives. About 25 folios bound together would be a convenient size—would serve a large apiary of 300 hives for two seasons, and one of 100 hives for five or six.

The same form will, of course, answer for the register of "comb" honey produced.

T.J.M.

Not one swarm in a hundred will go direct from the old hive to the woods if led by a prolific queen, but will settle near by, before taking their farewell leave of the old home.

The mother queen leads the first swarm of the season, and the second as well as the third swarms, are led off by the young virgin queens.

Should any numbers of the JOURNAL be lost in the mails, by notifying us promptly before the edition is exhausted other copies will be sent.

PRODUCE REGISTER.

APILARY.

HIVES No. ——— TO

Honey. Season 18———18——

Date.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11	No. 12	No. 13	No. 14	No. 15	No. 16	No. 17	No. 18	No. 19	No. 20	No. 21	No. 22	No. 23	No. 24	No. 25	Total of 25 Hives. No. ——— to ———	lbs.	
1882																												
Nov. 13	..	..	..	..	..	..	..	..	..	5	..	8	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
" 20	..	..	..	..	..	..	..	..	..	..	..	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26
" 22	5	..	..	..	..	..	..	..	..	..	..	8	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22
" 30	..	29	..	..	..	..	..	..	..	..	..	18	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	77
Dec. 2	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	79
" 11	..	16	..	..	..	..	..	..	..	..	12	7	..	4	7	8	4	..	..	18	12	..	..	..	..	..	..	106
" 13	5	..	..	..	..	..	..	..	..	..	..	14	8	..	4	8	..	4	..	..	12	..	..	..	..	..	..	65
" 18	..	6	8	..	..	..	14	..	..	..	6	13	..	..	7	..	..	..	8	11	10	..	..	..	..	..	..	124
" 28	..	12	9	..	..	..	..	..	..	..	..	15	12	19	..	8	..	..	..	..	17	..	..	..	..	..	..	122
" 30	..	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	..	..	..	..	..	45
	24	92	25	23	22	7	23	5	62	15	16	99	46	23	20	24	12	4	30	31	51	13	..	..	..	..	..	669
1883																												
Jan. 3	..	..	20	..	..	..	..	..	..	..	10	12	12	..	10	..	15	10	..	..	..	5	..	..	..	..	..	94



(For the N. Z. and A. Bee Journal.)

All correspondence must bear the name and address of the writer, not necessarily for publication, but as a guarantee of good faith.

### THE STANDARD FRAME.

SIR,—Your correspondent from Christchurch, in his letter which appears in your last number, objects to the Langstroth frame as being too long, "more particularly when the frames are hung across the hive (parallel to the entrance)"; and adds that "this method of hanging the frames is the most approved in England at present." Now this raises a question of principle in the construction of the hive, which certainly ought to be settled before the minor details of the length or breadth of the frame. The two different methods of hanging the frames, cross or longitudinal, are based on principles affecting the ventilation of the hive. The Germans term the former the "warm" system, because it checks the draft of air coming in from the entrance, the first frame serving as a sort of curtain to shield the succeeding ones which contain the brood nest, and the latter the cold system, because it tends to divide the draft, and to make it rise more directly through the spaces between the frames. The Germans generally adopt the former as better suited to their cold winter temperature, and the British B.K. Association has, no doubt, been guided by similar considerations. This is just one of the instances which show how necessary it is for the apiarist to have a due regard to the peculiarities of climate. It may possibly suit the winter climate of Canterbury or Otago better to adopt the British than the American standard hive; but in Auckland and in the Australian colonies, where the mean winter temperature is up to or above 50deg. as in California, there can be no difficulty whatever about wintering bees in the Langstroth hive, and for the summer season the better ventilation of the latter is a great advantage, exciting the bees to work storing honey and diminishing the tendency to swarm. We have both sorts in use at this apiary, as at first starting my son made four or five hives himself on the German and English principle before we had experience of that of the Langstroth. These hives have cross-frames of something near the size mentioned by Mr Bailey; we use them still because the hives are complete and serviceable, but we should never think of making more of the same sort for this locality now that we know the greater convenience of the Langstroth frame for all purposes of manipulation and extracting. We, on the contrary, would unhesitatingly give our vote for the latter as the standard for this district.

T. J. M.

Bay View Apiary, Dec., 1883.

[We are very glad to see that the question of a "Standard Frame" is being discussed; it shows that some interest is being taken in—what we consider—a very important matter to bee-keepers in this part of the world. It is to be hoped that the subject will now be fully ventilated, and the merits and demerits of the different frames

brought to the front, in order that we may learn without loss of time which will be the best one to adopt as a "Standard."—Ed.]

### BEE-KEEPING IN VICTORIA.

HAVING received an invitation from the editor of the N. Z. & A. BEE JOURNAL to give monthly reports of bee-keeping in this part of the Australian Colonies, and to contribute any other information on bees that may be of service to the readers of the JOURNAL, I avail myself of the opportunity to do so.

My main point in managing bees is to get the greatest result possible from them in order to make the most money out of their produce. For the last three years I have lived entirely on what I have made from my own bees and the fees received for managing other people's. I am what may be termed a professional bee-master; travelling round the country each season in a horse and cart with honey machines, sieves, and tubs; depriving, supering, and nading for different bee-keepers; and, if disposed to sell, buying their honey, honey-comb, and bees-wax. My charges are as follow:—For depriving and straining the honey, per hive, 2s 6d; putting on a super or nading, 2s; taking off a super or nadir, 1s; the latter is usually less trouble, and therefore can be done cheaper. I have often, with the assistance of a boy, deprived eight hives and strained perhaps four cwt. of honey in a day; but this was hard work I can assure you, and made me feel very tired at night. I generally saved the brood when depriving, but removed the combs as soon as all the bees had hatched, which would be in 21 days, thus forcing them to build new combs. No night-work with bees for me, all day-work is my practice during the honey harvest, as the bees and myself can then see what we are doing.

Our good seasons for honey here are every other year, caused principally by our red gum trees blossoming every second season; there are also other trees which do the same, although I cannot name them. My experience here with bees extends over a large part of Victoria, travelling through the different districts buying and selling honey, wax, and bees, moving sometimes from 10 to 20 hives at a time a distance of 120 miles overland, which is no slight undertaking. In my travels I have seen thousands of hives kept by different bee-keepers, and have had good opportunities of judging the nature of the flora of the various districts, which is what every bee-keeper should study, for the difference of a very few miles will often make your apiary a success or a failure, other things being equal.

By a want of unity among bee-keepers, honey does not realize much in this Colony; as far as I can learn I am the only bee-keeper who sticks out for price, knowing that the advance of one penny per lb. means over £9 per ton. Long before our bee season returns I am always clean sold out at my own price; this proves beyond a doubt that it is only a want of unity amongst bee-keepers that keeps the price so low. My purchasing price, wholesale, is 4d per lb.; selling price, ditto, 6d per lb.; retail, per dozen lbs., 7s; single pound, 8d. Comb honey for Ballarat and up-country districts, 1s per lb.; over 20lbs., 10d per lb.; by the box to shops, 9d per lb., thus allowing them 25 per cent., which I consider fair between myself and dealers.

I have no doubt about getting subscribers to your

JOURNAL amongst the bee-keepers of my acquaintance, and I intend to write monthly, as it will advance my own interests and do good to others. With good wishes for the success of the N. Z. & A. BEE JOURNAL, I am, &c.,  
ZIBER SUMNER.

Bee Farmer.

Great Western Victoria, Nov., 1883.

### BOX FOR RIVING SWARMS.

SIR,—I use a box 10 x 11 in. and 9 in. deep, inside measure. For this box I use a lid 12 x 13 in., with a rib 1 in. wide nailed two inches from the end on one side only; all of  $\frac{1}{2}$  in. stuff. If the swarm is on a branch where I can shake it off I hold the open side of the box up under the bees, give the branch a sudden shake, and a slight quiver after if needed; slip my hand between the ribs, turn the box over, and in a few minutes the bees are clustered in the box. The hive, of course, is ready in its place, and as soon as the bees are quiet I take them to the hive, put the box down gently, fold back the mat after removing the cover, then, with a hand at each end, lift up the box containing the swarm, leaving the lid on the ground, and suddenly shake out the bees on to the frames. The box is then put down, the mat drawn quickly but gently over the bees, the cover put on the hive cautiously so as not to crush any bees, and in a short time the bees will be at work in their new home. My swarms are generally hived in half an hour from their coming out. If my bees are in a difficult place I turn the lid with the ribs upwards, and put the box on them; this leaves a space all round for the bees to go in. Last season a lot of my swarms settled in a hedge, and I had to go into the ditch, put the box on the ribs of the lid, and hold it up against the bank while I brushed and shook the bees in as well as I could; all were hived. I use a goose wing for a brush.

J. NEWLAND.

Ngarota, Nov., 1883.

### SWARMING BOX, HONEY MARKET, AND OTHER ITEMS.

SIR,—Thanks for your reply to my communication to you of some five weeks ago, and also for your enclosure of spider plant seeds, both of which were unexpected. Again I have to report my inability to obtain quotations for honey in this market; in fact, I know of no place where I could lay my hands on any, with the exception of one firm, who are retailing 2 lb tins of Cal. w. sage honey at 2s. per tin. This, I think, will be their own importation. By the by, are you a ready market for clean wax—I see you advertise for same. What could you give, landed in Auckland, for quality, say same as that in your foundation?

Bee-keeping in this part of Otago is hardly worthy the name as yet, it takes those who have bees all their time to keep them, let alone make profit out of them. Of course, this is due in a great measure to the very primitive way they will persist in hiving them. Persist, I say, because the public in these parts have, from time to time, had their attention drawn to the advantage of the bar, or rather frame hive. Farmers and rural folks are very slow to take up new ideas, and of these I think the Scotch are the slowest.

My friend, Mr Brickell, some three or four miles from me, a very ingenious sort of fellow, is very enthusiastic in the bee line, and intends, I believe, to go into the business thoroughly, already having completed several orders for Langstroth hives, concerning the adoption of which I may say we both agree. I think the additional freedom with which you can sell them if you want to is sufficient reason to settle on that frame. I have refused to buy several different sorts of frame hives because they were not interchangeable with the simplicity. Of course, this is the experience of many.

Before you receive this you will no doubt have had a communication from Mr Brickell, and as far as I can judge, I believe him to be a decent pushing fellow, who will, no doubt, help *modern* bee-keeping in these parts even in his small way (he, like myself, being only a working man). But oh! it is such a job to stir up these stick-in-the-muds. And then we have such a climate down here; why, whilst I am writing, the blast is howling round the house and the rain is pouring down in torrents, as in the depth of winter, and such has been the weather this last 4 or 5 weeks, the bees just getting out for a few hours now and again. I am reduced to one hive, and that I have had to feed a few days ago by filling up three empty frames of comb. You may be inclined to demur to this as feeding too rapidly, but where would they be if this weather continues another week or so, and there is no getting to look at them whilst it lasts.

Friend Brickell is strongly of opinion that *we* must go in for a modified chaff hive, that is to say, he is going to construct the lower story, so that it shall have double walls and contain a casing of chaff all round. This will, no doubt, serve the double purpose of keeping out the extreme cold we often get in the winter, and will greatly modify the action of the sun's rays in summer; of course, this has to be proved. At present we are feeling our way, knowing that there is much to be learnt. What will do in America or England, or anywhere else, may not do here; caution must ever be our watchword. Even what applies to one part of New Zealand may not to another, and I think, of all places, New Zealand demands the greatest amount of caution to be exercised, comprising as it does so many distinct varieties of climate and flora.

The 5 lbs. box of comb-foundation that you forwarded to my place of business for Mr Brickell, came to hand in good order, and as 2 lbs of it is for me, I may say that I am highly pleased with it, and think it is a deal nicer than Roots—the cells are deeper and clearer—but this may be due to the small quantity, which reduces the pressure of one comb on another and the better packing. I would like to be as sure of getting down a queen or two.

Much has been said about hiving and hiving trays. The simplest way to hive a swarm, I would think (I speak thus because I have hitherto hived into a common box), would be to construct, of  $\frac{3}{4}$  in. light wood, a frame some 6 or 8 in. deep, the circumference of a simplicity hive, so that you could stand a hive on top and be flush all round; before nailing together, run a groove along the two sides, say  $\frac{1}{2}$  in. or  $\frac{3}{4}$  in. from the edge, in which to run lid or bottom as you may choose to term it, which, of course, will slide in or out. Now on the other edge tack some calico all round sufficient to pull over, gather in, and tie as you would the mouth of a sack. Being provided with a tray like this you would simply hive your bees as into a common box by using the tray lid downwards. If you

have a distance to carry them then brush in all the bees you can, tie the calico over the mouth of tray, and take them to their destination. If you invert the tray so that the sliding lid is uppermost, the bees will almost be sure to be clustering to the lid. Unloosing your calico (if you have had to use it through distance), place the tray, lid uppermost, on the bottom board of the hive you intend to put them in; then set your hive on top with a frame of brood and some foundation smeared with honey. All being ready (smoker and all), gently draw the lid of your tray, and the cluster will be very easily broken up; now if you have propped up the tray with a stick or two, some  $\frac{3}{4}$  in. from the board, and they should show any disposition to cling to the bottom of the frames, give them a puff or two of smoke, and they will, no doubt, shift up a little higher; but don't smoke them out of the hive. I think this is worth a trial, and is very simple.

In ordering a queen, do you think it would be safer to place her in the hands of someone on board rather than run the risk of the mail bag?

Suppose, by reason of over-production, honey (as with meat), should become almost a glut, do you think the jam makers could use it, and if so, would it be worth weight for weight the same as sugar, say £36 per ton? If so we have no reason to fear but what even at that it would pay. But there's the if. Can anyone definitely answer it? With best wishes that you may have a good harvest.—I am, &c.,

WM. CHAS. BROWN.

Maybank, North East Valley, Dunedin, Nov., 1883.

P.S.—I see, after writing the foregoing, that a correspondent writing in this month's JOURNAL, advocates a similar living tray; I had overlooked this. You say they will cling to the bottom of the frames; I think the smoke would drive them up, if not, let them alone until next day. I think the following morning would find them up amongst the frames. I fail to see the need of a brush if the lid is drawn out gently.—W.C.B.

[Our price for clean, bright yellow beeswax, landed in Auckland, is 1s per lb.; we can usually take any quantity. We have sent some comb-foundation to Dunedin on sale, which, no doubt, bee-keepers there will find much more convenient than having to send for it when required. We are sorry to say that all districts throughout New Zealand are suffering from the extraordinary bad weather we have been, and are now, getting; the "oldest inhabitant" cannot remember such a season before. Your swarming-box is similar to "T.J.M.'s" with the exception of the movable lid. It will be better not to use much smoke with a new swarm, as it might cause the bees to leave for "fresh fields," &c. We think there need be little fear of over-stocking the local markets with honey for a long time to come; not but what there will be plenty raised in the course of another year or two, but we feel convinced the demand will more than equal the supply for many years. As a proof of this we could now place 25 tons or more locally if we had it; one firm is prepared to take 10 tons, and another our season's crop, whatever it might be—of course they suppose it would amount to a few tons; we have also several enquiries for smaller parcels. Our honey being pure white clover, we value it at about £40 per ton in bulk. As soon as honey can be procured in large quantities at about the price of sugar, it will enter largely into our manufactures; jam-makers, fruit-preservers, brewers, and confectioners will use it,

besides taking the place of sugar in many other ways. The best advice we can give to beginners is to adopt all the modern appliances, raise as much honey as you possibly can, with a sure conviction that you will find a ready market, at a remunerative price, for all you can produce.—Ed.]

### BEE-KEEPING NORTH OF AUCKLAND.

SIR,—I am a subscriber to the N. Z. & A. BEE JOURNAL, and have read with interest the correspondence and articles published in all the numbers to date; but as I noticed you advocate the Langstroth hive to the exclusion of all others, I have been doubtful whether you would publish a communication from me, giving my experience of the English "Standard" frame-hive. I am very pleased that you have started a bee journal and have often thought that one was needed in the Australian Colonies as a medium through which bee-keepers could exchange their ideas and experiences to the mutual advantage of all; and I have no doubt that in time it will be well supported.

When I commenced bee-keeping three years ago I soon found out that the honey obtained in this locality was too thick to extract without breaking the comb. So I was not much better off than if I had box-hives, and, as I was not prepared to put section boxes on, I had to take the surplus honey and strain it through cheese-cloth. The next year I gave up the idea of extracting, and prepared 1½ lbs. section boxes, and top-boxed all hives, using wood and tin separators in 27 hives, and boxed 9 without separators, using nice white comb for starters; only 4 with the separators went in the boxes, and 8 out of 9 without separators worked in the boxes well. The bottoms of my boxes used without separators are  $\frac{1}{2}$  in. narrower than sides and top, and to give the bees more room to go up, last year I bored three 1-inch holes in bottom of each box, and I was quite successful in getting an average of 40 lbs. of comb honey from each hive (using no separators), which was a fair return considering that this immediate neighbourhood is not rich in clover, our soil is too heavy to grow it, a year or two after it is sown it dies out, and very little bush at a less distance than three miles. Swarming commenced here on the 18th October. I have not time to rear queens, I let them swarm away naturally. We have used a 100lb. flour-bag to take the swarms to the hives and throw them in between the frames hived nearly all this way this year. We use moleskin gloves; they answer very well. What is the cause of bees murdering their queens? We lost six hives last spring through it. I have one of your smokers, which is very useful for uniting small colonies.

JNO. BECROFT.

Port Albert, November, 1883.

[We cannot imagine what could have caused you to be doubtful about our publishing your experience with the English "Standard" frame. We are not aware of having made any statement in our articles on "The Langstroth Hive" or "Standard Frame for Australasia" which could reasonably be said to convey the idea that we would be averse to publishing correspondence relating to any other than the Langstroth hive. On the contrary, we stated in our introductory article in the first number of the JOURNAL that "Our correspondence columns will be open for the discussion of all matters

that will tend to the advancement of knowledge in bee-culture." With reference to our advocating the use of the Langstroth hive and frame, we consider it our duty as Editor of this JOURNAL to point out to bee-keepers the hive, other appliance, or method in connection with apiculture that we believe to be best; in fact, if we did not do so we think the JOURNAL would be of very little use; at the same time we wish to have the views and experiences of others, no matter how varied, as this will be the only means of arriving at a correct estimate of the value of any particular method or article. In advocating the use of any special appliance we have given our reasons for doing so, and we hope our correspondents will do the same; it is not sufficient to say that this or that method or thing is the best without pointing out plainly its advantages over others. There is no business or occupation at the present time making such rapid strides in the way of improvement as bee-culture; this, without a doubt, is entirely due to the liberal spirit of those engaged in this pursuit, which prompts them to make known through the various journals anything they may have discovered that will benefit their fellow-workers. Therefore, we specially invite Mr Becroft, and others, to give, through the JOURNAL, their experience with any appliance (save box-hives and the sulphur pit) or method in the management of bees they may think best for the purpose. We cannot answer your question *re* bees murdering queens correctly, without some particulars. It is not likely that they were killed by their own bees, but by robbers. If you will state the condition of your colonies which became queenless, and give all the particulars you can, no doubt we shall be able to point out the reason why the queens were killed.—ED.]

#### CE N'EST QUE LE PREMIER PAS QUI COUTE.

SIR,—Throughout the following winter I diligently studied all the bee literature I could lay hands on—"Cook," the "Am. Bee Journal," "Gleanings," and most interesting of all that ingenious novelette the "Blessed Bees"—finally deciding that I could not do better than copy as closely as possible the methods and appliances of Mr D. A. Jones. I procured a sample hive and frames, and had them accurately copied. Taking advantage of one of my scanty holidays, in my case a veritable *dies alba creta notanda*, I went down to Beeton on the 24th of May. The day was bright but cold, and the vegetation showed that characteristic tardiness in coming out which makes a Canadian spring my aversion. I returned the same evening with two Italian swarms and an extractor. Safe at home, the haste I made to release them was only exceeded by the respectful alacrity with which I got out of their way as they poured out after their four hours' close confinement, though they were really very quiet peaceful bees. A stock I got a fortnight later from the Western States were very much the reverse; their first act, the very evening of their release, being the raising a bump, as yet unclassified by phrenologists, on the head of a venerable maiden relative. I believe there's a station somewhere on the Union Pacific which, from the peculiar promptitude its inhabitants displayed in early days in organizing funerals, received the name of "Lively Times," and while transferring the American stock I had serious thoughts of selecting this as the

name for the apiary I hoped to have, as I really thought before I got through they would be the death of me. The weather being raw and cold, I carefully stimulated in the evenings with a comb partly filled with warm syrup, and had the satisfaction of seeing my three stocks rapidly increasing, the frames being carefully blanketed. Commencing about the end of June I was able to form nuclei and rear queens. I was fortunate enough on one occasion to open the hive just in time to separate and save two young queens who were clinched in a life and death struggle. Introducing one, I looked the following evening for her in vain; just as I was giving up the search, under the conviction that she had fallen a victim to the "home rule" faction, I heard a pitiful little squeak, and, hastily scanning the frames, I espied my poor queen, followed by a few of the baser sort, whose persecuting attacks caused her to utter the faint sounds I had heard. Sharing the views of Maning's New Zealand chief as to the inutility of "little wars," I poured in such a deluge of smoke and peppermint water that they were glad to beat a hasty retreat. Scenting the queen and daubing her with honey she was speedily accepted, and soon replenished the brood combs. By this time I had been able to regard stings from the point of view held by the philosophical Mr Toots, with reference to things in general, viz., as "of no consequence," and was often called upon to shew the little skill I had acquired to lady visitors, who, safely ensconced in a neighbouring summerhouse, gave utterances not to the *ululationes foculorum* of the classical author, but to the usual inane ejaculations reserved by the sex for everything but dress. Ah! I was a great medicine man in those days. Enough, I have said.

NIU TIRENA.

Hamilton, Dom. of Canada, Oct., 1883.

#### MAKING A START.

SIR,—I have been very anxious to make a start in bee-keeping, and tried to purchase a swarm from my neighbours, but failed in getting one. A few days ago my boys discovered a swarm in a hollow tree in the bush, about one mile off, which I determined to capture. I first made a hiving case as described by "T.J.M.;" I then considered when is the best time to capture the swarm? thinking many bees would be away gathering honey in the day time which would be lost by an attempt, then decided me to go at night. Arrived at the tree I proceeded to tack the open mouth of the sack round the entrance to the hollow, and then rapped on the trunk for half an hour, thinking the swarm would drive; but none ascended into the box. As there appeared no other plan of getting at the bees I proceeded to cut a large hole into the tree. Unfortunately the tree was very rotten, and crumbled into dust and fell on the dark combs. This prevented my being able to distinguish anything, and I decided to shovel up everything I could and place it in my box, hoping the bees would crawl out of the dirt, and I could then hive them. This I did by shaking them on to a cloth and placing the hive over them, but, to my sorrow, they had all gone at night. On again visiting the tree I found the remaining bees had left the rubbish and clustered on the trunk; I then held the sack of my hiving case under them and swept them in in the usual way. I think,

Sir, that we may learn a good deal if everyone would relate the errors they make, in order that you may point out the proper way to proceed, and others may avoid the same mistakes. It is with this in view that I relate my first attempt at transferring stock from a tree to a hive. I regret that so many bees of my swarm have been lost and killed, and I hope you will be good enough to explain how I ought to have proceeded.

C. W. BABBAGE.

Te Koriti, Wanganui, Nov., 1883.

P.S.—In answer to Mr J. Awdry, I may say freight to Wanganui on my hives came to 7s 6d; wharfage, 1s 4d.—C.W.B.

[It is a very difficult matter to give advice on "how to proceed" in a case of this kind unless one saw the tree and the surroundings. The position of the tree, and the bee nest in it, &c., would require to be known before we could give the details of any method that would prove successful in securing the bees. However, as far as we can judge without fuller particulars, we would probably have proceeded in the following manner:—If the bees were within a reasonable distance, so that we could carry them in a light box holding four or five frames, we would make as light a box as possible to hold, say, five frames, making it in such a way that the frames would be perfectly secured from moving except to take them out and put them in, allowing about an inch space between each two frames. The bottom of the box to be nailed on, and a temporary cover, removable, with an entrance for the bees bored in the lower part of the box. Taking the box with frames, some transferring wires, or tape, and a smoker, we would go to the tree during the *daytime*—morning would be best. After getting the smoker underweigh, and blowing a few puffs of smoke into the bee nest, we would proceed to enlarge the opening to it, so that we could get at the combs conveniently. These we would cut out, transferring the best of them, and that containing brood to the frames, in the meantime driving the bees out of our way with the smoker. When the best of the combs had been secured in the frames, and the box placed close to the nest, we would—if we could not get the bees out of the old nest in any other way—put in our hand and gently lift them out and put them in the box until we were pretty sure the queen was secured, which would be known by bees fanning at the entrance, and those flying about entering the box. After we were certain the bees were taking to the box, which would be known in a very short time, we would leave them till evening, or, if there was no fear of the box being disturbed, we would leave it for a day or two to give the bees time to fasten the combs when it could be removed some evening after the bees were all in. The entrance could be secured by tacking a piece of wire cloth or perforated zinc over it, and the cover either screwed or tied down so that no bee could escape; a cloth of some kind might also be tied round the box, and in this way it could be carried as most convenient and placed alongside the hive to which the frames are to be transferred to. We have supposed the tree to be lying on the ground.—Ed.]

Take care of the back numbers of the JOURNAL, they will be very useful for future reference. Any of them can be supplied at sixpence per copy.

## FROM OUR CONTEMPORARIES.

### EXTRACTING AND CURING HONEY.

READ BEFORE THE N.E.B.K.A. BY L. C. ROOT.

DURING the past thirteen years we have extracted honey largely each season, taking as much as sixteen tons in a single season.

We have operated under almost every variety of conditions.

During this time we have noticed the many inquiries, which have been made through our journals, bearing upon the subject of extracting honey. It is a growing interest, second to none in our pursuit.

One of the most important points in this connection is, when is the best time to extract? Indeed, to those who extract largely, it is a question all important.

Let us notice some of the advantages of the different methods.

We shall claim, first, that as regards the quality of honey, there is no difference as to the time when it is extracted. It may be cured equally well after as before. The only necessity is that it be cured.

The advantages of extracting honey as soon as it is gathered are these: When it is being gathered rapidly, if it is extracted at once, room is afforded for the queen to deposit her eggs, and the operation seems to stimulate brooding. The large force of bees thus secured is of great importance in sections where the seasons are long, or where fall honey is abundant.

When extracted as soon as gathered, the bees are saved the labour of curing the honey and of capping the cells, and the operator is saved the labour of uncapping the cells, but the great advantage in removing it from the combs as fast as filled is, that the bees may be fully occupied in bringing in honey while the yield continues. To us who are in sections where the flow of honey is of limited duration this is of extreme importance.

When the honey is first gathered, it is much more easily thrown from the combs, and it is much more agreeable to operate when the bees are busily at work.

The best method of curing honey has been of much interest to us, and we have experimented largely in this direction.

When honey is being gathered so rapidly that each good stock is storing from twelve to twenty pounds per day, one will not realize, without close observation, the amount of labour it is for the bees to cure the honey and the consequent loss. Actual experiments will prove this to be very much greater than would generally be supposed.

In all this process I see only the fact that the honey is spread over a large surface, and handled over by the bees and subjected to a high degree of temperature and more or less exposure to a circulation of air. With these facts in mind, we have endeavored to produce the same results and relieve the bees of this labor.

We have arranged an evaporator by which the proper degree of temperature is easily maintained, and the evaporation secured, by passing the honey over an extended surface of warm water.

If the honey is evaporated as soon as it is gathered in very warm weather, no artificial heat is necessary. The evaporator is arranged so that a current of air will pass over the honey.



I have with me samples of honey cured by this means:—

Sample No. 1 was extracted as soon as gathered and passed over the evaporator three times from one cask to another. It will be seen that it may easily be evaporated until it becomes solid.

Particular attention is called to sample No. 2. This honey was extracted as soon as gathered, and was very thin. It was left in a damp place until it had fermented. The improved condition and consistency to which honey of this sort may be brought by this process may be seen by examining this sample.

I predict in the near future honey pure and unmixed will be evaporated to the proper consistency and take a high rank as desirable confectionery.

The bearing this subject of properly evaporated honey has upon holding honey from one season to another is worth our attention.

A thorough investigation of this subject by bee-keepers generally will, in my opinion, prove to be one of extreme importance.

Mohawk, N.Y.

### SOUTH AMERICAN BEES.

THE following has been translated for the JOURNAL from a Continental (European) paper by Mr Schumaker, Taranaki:

"Melipons is the name of a very remarkable South American race of bees. These insects are smaller and shorter than the European bee, and are in appearance much like the humble bee. They have no comb with cells, but they build pots, which stand on legs. These pots contain about three times the quantity of honey as the common bee cell. The legs of these pots stand about one centimeter high, and form the endless passages which lead through the whole colony, consisting of many stories in height. The wax of these bees is of a dark colour: the honey is very clear and liquid. The entrances to these bee fortifications are carefully watched by guards."

A colony of these bees is at present in the botanical gardens of Munich, and Professor Dr. Siebold is engaged in studying the manners of this foreign insect.

HAUSFREUND.

## QUERIES AND REPLIES.

*We shall from time to time give replies through this department to questions pertaining to bee-culture, propounded by our subscribers. We would ask our correspondents to be as concise as possible, and to number their questions 1, 2, 3, and so on.*

**QUERY.—Inserting Queen Cells—Uncapping—Robbing—Dead Larvæ.**—Will you please answer the following questions in your Queries and Replies:—1. When inserting a queen cell into a comb of brood, are the bees brushed off the comb, or is it put in the comb-holder and done there with the bees adhering? 2. How is the uncapping done, is the frame of honey laid flat on a table or kept upright? as the least lean either way is apt to break the comb from the frame. 3. When manipulating the bees I generally lose a lot of twenty or thirty; they seem as if disturbed and frightened, sometimes one catching hold of another and flying with him and dropping him a distance away almost lifeless. No damage is done by me, as I am very

careful not to hurt one nor jar the hives or frames, it only takes place when I work amongst them examining. 5. What is the cause of a few dead larvæ in front of the hive—two or three,—they are white? By answering the above you will much oblige—Yours, &c., R. H.

**REPLY.**—1. It is better to brush the bees off the comb, though we often insert cells without troubling about them except to puff them out of our way. 2nd. The frames should never be laid flat when uncapping the comb. A very good uncapping arrangement for a small apiary can be made as follows:—Procure an ordinary milk dish, the deeper the better; make a light wooden framework to fit across the top on which to rest the frames while uncapping. On the underside of the framework tack a piece of wire cloth of about ten meshes to the inch, and it is ready for work. When uncapping, rest the frame of comb on the framework over the dish, keeping the comb in an upright position; now cut off the caps of the cell in a sheet, letting them drop on to the wire cloth, which acts as a strainer. The honey from the cappings will gradually drain through into the dish. Care must be taken when handling new combs heavy with honey, as they are liable to break out of the frames in warm weather if roughly handled. 3. No doubt it is strange bees trying to do a little pilfering, and taking advantage of the hive being open sneak in, but are quickly "grabbed" by the inmates. When robbers are about, hives should not be opened more than is absolutely necessary. 4. The larvæ you speak of had most likely been injured in some way, or were not perfect and the bees were getting rid of them. Bees will destroy larvæ sometimes when food is very scarce; instinct prompts them to do this to economise the food. When this occurs they should be fed liberally.

**QUERY.—Honey Plants and their Cultivation.**—**SIR,**—I have a query or two which I would like you to answer through the JOURNAL. 1st. What is the best mode of cultivating Rocky Mountain bee plant, California white sage, Simpson honey plant, and any other well-known honey plants from the seeds? 2nd. Botanical names for same. 3rd. Have they any commercial value apart from being honey plants, or have they any medical or other properties which might be made of commercial value? 4th. Would you name a list of the best honey plants that might with advantage be cultivated even apart from their value as bee food?—W. C. Brown, Dunedin.

**REPLY.**—1st. The best method of cultivating most of the honey plants mentioned and similar ones, is to sow the seeds in beds in early spring after frost is over, planting out the young plants in rows when sufficiently large to handle. The distance to allow between the rows and between the plants in each row will depend upon the size of the full-grown plant; for instance, Rocky Mountain bee plant, spider plant and Cal. white sage requires three feet space each way; while figwort, placillia and the smaller plants require much less room, say one-half the above. Spider plant, and we suppose Rocky Mountain bee plant as it is of the same family; the seeds of these are better sown where the plants are to remain, as they transplant badly. Where large areas are to be sown, the usual method for sowing agricultural seeds would be better. 2nd. White clover (*trifolium repens*), alsyke or Swedish clover (*trifolium hybrida*), sweet clover (*mellilotus alba*), borage (*borago officinalis*), buckwheat (*fagopyrum escu-*

lentum), figwort (*scrofularia nodosa*), motherwort (*leonurus cardiaca*), catnip (*nepeta cataria*), all the herbs, mustard (*sinapis alba*), rape (*brassica campestris*), spider plant (*cleome pungens*), rocky mountain bee plant, (*cleome integrifolia*), and Cal. white sage (*audibertia poly-stachya*). We might extend this list considerably, but we have given the names of the best honey plants we know worth cultivating on a large scale. 3rd. All the clovers, buckwheat, herbs, mustard, and rape have a commercial value, but we are not aware that any of the others named have—the catnip, motherwort, and borage are, of course, herbs, medicinal we believe. 4th. This question is answered in the second. We may state that the Cal. white sage is rather a tender plant, and will stand but little frost. Out of about 100 plants we had growing, the frost during the last winter has killed over 90 of them, and the remainder are just lingering “twixt life and death.” We do not think this plant will succeed south of Auckland, unless close to the sea coast where there is less frost than inland.

**METEOROLOGICAL OBSERVATIONS FOR THE FIVE MONTHS ENDING 30th OF NOV., 1883.**

(SUPPLIED BY T. F. CHEESEMAN, ESQ., AUCKLAND.)

The upper set of figures under the different headings, as will be seen, are the means for the month, the lower set the average of the same month for the previous sixteen years:—

AUCKLAND.

Month.	Barom. corrected (Inches.)	Max. Temp. in Shade.	Min. Temp. in Shade.	Mean Temperature.	Solar Radiation.	Minimum Temp. Exposed.	Rainfall in Inches.
JULY	29.78	57.1	47.4	52.3	115.0	42.5	4.79
	29.92			51.6			4.22
AUG.	30.18	57.0	45.1	51.0	112.0	41.5	4.41
	29.92			51.4			3.98
SEPT.	30.05	60.7	47.3	54.0	124.0	40.8	1.84
	30.05			55.0			3.48
OCT.	30.07	61.4	50.5	55.9	123.0	46.4	4.16
	29.99			57.4			3.15
NOV.	29.98	65.8	51.7	58.7	182.6	45.3	3.49
	29.96			60.9			8.01

**JULY.**—Remarks: From 1st to 4th showery, with S.W. winds; 5th and 6th fine, wind veering to N.E.; 7th and 8th, easterly gale, with rain; 9th, fine and warm; 10th to 22nd, mostly showery, with variable winds, but chiefly from W. or S.W.; 23rd, fine and clear, with very severe frost; 24th, fine and warm, wind changing to N.E.; 25th and 26th, strong N.E. gale, with heavy rain, 1.10 inch being registered on the 26th; 27th to end of month, mostly S.W. winds and slight showers. Maximum temperature in shade, 61°; minimum in shade, 36°; minimum exposed, 30.5°. Atmospheric pressure under the average of previous years; mean temperature above; rainfall slightly above the average.

**AUGUST.**—Remarks: From 1st to 13th mostly fine clear weather, with light southerly winds, barometer unusually high; slight showers on 4th, 9th and 11th; 14th, cloudy and threatening, with stiff N.E. breeze; 15th to 19th, squally and showery, with variable winds; 20th and 21st, fine but cloudy, with strong westerly breeze; from 22nd to 26th, S.E. winds, with much cold rain, 1.02 inches being registered on the morning of the 24th, 23rd and 24th being particularly cold, wet and disagreeable, snow falling in several places in the vicinity of the town; from 26th to 29th, showery and squally, with westerly winds; 30th, wind shifting to N.; 31st, strong N.E. gale, with heavy rain, 1.3 inches registered, Atmospheric pressure above the average of previous years; mean temperature slightly under; rainfall above the average.

**SEPTEMBER.**—Remarks: From 1st to 9th squally and unpleasant weather, with a N.E. gale on the 6th, and low barometer (29.16); middle portion of the month from 10th to 23rd unusually fine and clear, with light variable winds and very high barometer, reaching 30.87 on the 20th; from 24th to 27th, cloudy and gloomy, with occasional slight showers; from 28th to 30th, squally and unpleasant, with westerly breeze, hailstorm on the morning of the 30th. Atmospheric pressure and mean temperature about the average of previous years; rainfall small, hardly more than half the average, and the least recorded for the month since 1872.

**OCTOBER.**—Remarks: 1st, 2nd and 3rd with light S.W. winds and slight showers; from the 4th to the 8th fine and warm, with light, variable winds, mostly from N.E.; 9th and 10th, strong breeze from N.E., shifting to W., with rain; 11th to 14th, unusually severe westerly gale, with hard squalls and occasional hail, barometer falling to 29.45; 15th to 19th, mostly fine, but with occasional showers, wind variable, heavy rain on the morning of the 23rd; 27th to 29th, fine, but rather cloudy; 30th, N.E. gale, followed by heavy rain, 1.19 inch registered, wind shifting to S.W. Atmospheric pressure above the average of the previous sixteen years; mean temperature considerably below; rainfall much in excess.

**NOVEMBER.**—Remarks: 1st and 2nd, fine; 3rd and 4th, unsettled and showery, with thunder; 5th to 9th, fine, but rather cool and cloudy; on the 10th, 11th and 12th, N.E. gale with heavy, but not continuous rain; from 13th to 21st, very showery and variable weather, wind varying from N.W. to S., thunderstorms on 18th and 19th; 22nd and 23rd, fine and warm; 24th to 27th, warm and close with occasional showers, thunder on 26th and 27th; 28th to end of month, fine, clear, and calm. Weather on the whole singularly variable for the time of year. Barometric pressure slightly above the average of the previous sixteen years; mean temperature much below, and the lowest recorded for the month since 1867; rainfall above the average.

**HONEY MARKETS.**

AUCKLAND, January 1st, 1884.  
We beg to quote honey as follows:—Wholesale, 1lb tins, 8s to 8s 3d per doz.; retail, 1lb tins, 11s to 12s per dozen. Bulk honey, wholesale, 4d per lb; retail, 5d per lb. Extra fine, 6d per lb.

AUCKLAND AGRICULTURAL AND MERCANTILE Co., Limited.

**ENGLAND.**

By last mail news, honey was still in good demand at average rates. The value of honey imported into the United Kingdom during the month of August, 1883, amounted to £6,262.  
—*British Bee Journal.*

**AMERICA.**

NEW YORK, November 15, 1883.  
**HONEY.**—White clover and basswood in 1 lb. and 2 lb. sections, 17 @ 21c.; dark to second quality, 14 @ 15c.; extracted white clover, in kegs and barrels, 9 @ 10c.; dark, 8c.

**BEEWAX.**—Prime yellow, 27 @ 29c.  
H. K. & F. B. THURBER & Co.  
SAN FRANCISCO.

**HONEY.**—There is a fair jobbing trade. Offerings are not large. Choice qualities command extreme figures.  
c. c.  
White to extra white comb ... .. 16 @ 20  
Dark to good ... .. 10 @ 13  
Extracted, choice to extra white ... .. 8 @ 9½  
Dark and candied ... .. 6½ @ 7½  
**BEEWAX.**—Wholesale ... .. 27 @ 28

STEARNS & SMITH, 423, Front-street.  
—*American Bee Journal.*

**SPECIAL NOTICES.**

We have added two extra pages to this issue in order to give space for correspondence and other matter that was crowded out of our last.

**QUERY AND REPLY DEPARTMENT.**—Correspondence for this department should reach the editor not later than the 15th of each month, when replies are required in the next issue.

**ADVERTISING DEPARTMENT.**—Advertisements for the next issue should reach the publisher by the 24th of each month.

Correspondence for publication may be sent at book post rates *i.e.*, one penny for every two ounces, providing the book post regulations are complied with, and the words “Press Manuscript” are written on outside of cover.

P.O. Orders for Subscriptions, Advertisements, &c., to be made payable to J. C. Firth, Chief P.O., Auckland, and sent under cover to H. H. Hayr, High-street, Auckland, or P.O. Box 186.

**SCALE OF CHARGES FOR ADVERTISEMENTS.**

Single Column.	£	s	d	Double Column.	£	s	d
Three lines ...	0	1	6	Page ...	2	10	0
Per line afterwards ...	0	0	6	Half page... ..	1	7	6
Inch of space ...	0	3	6	Third of page ...	1	0	0
Quarter column... ..	0	8	0	Quarter page ...	0	17	6
Half column ...	0	15	0				
Whole column ...	1	5	0				

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