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June 1925

# THE NEW ZEALAND AND AUSTRALIAN BEE JOURNAL.

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### CONTENTS.

	Page
CALENDAR—August .....	13
EDITORIAL—	
Our Postal Regulations .....	14
The Langstroth Hive .....	14
A Standard Frame for Australasia .....	15
Fertilizing Red Clover at Matamata .....	15
Making an Improved Honey Extractor .....	15
Bee-Keeping at Matamata .....	16
CORRESPONDENCE—	
Honey Tray .....	18
Moving Bees .....	18
Effects of Bee Stings .....	18
REPORTS—	
Bay View Apiary .....	19
Apiculture in the Westport District .....	19
QUERIES AND REPLIES .....	20
FROM OUR CONTEMPORARIES—	
Bees and Honey in Ancient Times .....	22
Fertilization in Confinement .....	23
Do Bees Injure Fruit .....	24
HONEY MARKET .....	24
SPECIAL NOTICES .....	24

### CALENDAR.—AUGUST.

IN fairly strong colonies, breeding will commence this month, consequently more food will be consumed, so that it is necessary to see that each colony is well supplied. Those that have had but a scanty supply for winter use will now be getting short, and should be fed according to the directions given last month. As dysentery is apt to make its appearance amongst bees that are not well cared for at this time of the year, and as cold and dampness combined within the hive is the principal cause, it should be seen to that the interior of the hives be kept dry and the colony snug and warm. An extra layer or two of some warm, porous material over the tops of the frames will be found of great benefit in retaining the heat, without interfering with the ventilation in any marked degree. The instructions given last month with regard to cleaning bottom boards, etc., is also applicable to this.

As the season is now fast approaching, when bee-keepers who have already established their apiaries upon modern principles — and we know of a large number in these colonies—will be looking forward for a return on the capital expended, it behoves such to be sure that they do not lack in what is required of them. As the work in an apiary is divided between the bees and bee-keeper—the work of the latter being essential to that of the former,—and as we know that the bees will perform their part of the work, so it remains with the bee-keeper whether his apiary will turn out a success or otherwise. Of course, we refer to an ordinary season, although systematic work is just as much required, or perhaps more so, in a poor than in a good season; for the most slovenly bee-keeper might be successful in a good season, whereas he would entirely fail in an ordinary one.

One of the chief points to be observed is to have everything on hand when required, such as hives, comb-foundation, etc., not to leave the making or purchasing of these things until the bees are swarming. Hives should be made up or ordered from the dealers in time to have them painted and ready for use not later than the end of September. For, although they may not be required for two or three weeks, it is better to have them on hand, as the season may come in earlier than usual. We would advise those who get their hives, etc., from the dealers to send in their orders early, as there is usually a large rush for these things just before and about swarming time. Delays in executing some of the orders at this time are sure to occur, when the blame is put upon the dealer, and really it is the bee-keeper's own fault for not sending his order

at an earlier date. Having been in the supply trade, we speak from experience. We cannot recommend too strongly the carrying out of the foregoing instructions.



### OUR POSTAL REGULATIONS.

We think that it is quite time that some of our Postal regulations were amended. We are reminded of this by the fact of having to pay book-rate postage on all copies of this journal posted to places beyond New Zealand. We consider these regulations are highly detrimental to the interests of this country by tending to prevent the publication of journals which look for support outside as well as within the colony.

Our journal is classed by the authorities as a magazine, and, therefore, charged book-post rates when posted to foreign countries, *i.e.*, "one penny not exceeding one ounce; twopence not exceeding two ounces; and twopence for every additional two ounces, or fraction of two ounces." As the journal with the wrapper weighs one and a half ounces, it is necessary to put on a twopenny stamp if only posted to Australia, while a newspaper of any weight—there is no limit to weight in the regulations—may be sent to Australia, the United Kingdom, Canada, or the United States for one penny. We are also debarred the privilege enjoyed by the publishers of newspapers, that is, franking exchanges.

We receive each mail a number of journals from England and America, some of them weighing three times as much as our own, and yet they only bear a penny stamp; while under our regulations a journal of the same weight sent from this country would require a sixpenny stamp. We have an American magazine lying on our desk, equal in weight to this journal, bearing a half-penny stamp. It is really difficult to understand why our postal authorities have so heavily handicapped our journals. We have in consequence been obliged to charge our foreign subscribers 7s. per annum instead of 6s., very much against our will. This, of course, must have a detrimental effect on the foreign circulation of a journal of this kind, which, more or less, is against the interests of the colony. This publication being the only one in the Australian colonies representing an industry that we may say is entirely new here, and we feel sure will become an extensive one in a short time; anything that will tend to hinder the circulation of it will work injuriously to the interests of the industry.

The regulations have already had the effect of preventing us using stouter paper in the journal. We had intended to print the journal on stout paper in future, but the mail that brought us a sample of the paper also brought us a copy of a letter from the postal authorities apprising us of their decision. As the journal printed on stout paper would weigh over two ounces, we decided at once to keep on with the present class of paper rather than pay fourpence for foreign postage. We shall represent the injustice of the present regulations to the proper authorities and hope they will at once see the advisability of amending them.

### THE LANGSTROTH HIVE.

ONE of the first questions that is pretty certain to occupy the mind of the prospective bee-keeper—especially if he has had the opportunity of reading works on bee-culture by different authors—is: Which hive shall I adopt? Without doubt it is a question of a very perplexing nature to beginners; for, after the perusal of different works, with the idea, perhaps, of getting some assistance from them in arriving at a definite conclusion, they invariably find the question more embarrassing than ever, from the fact that each author will most likely recommend a different hive. The usual course, after a person has got into a perfect fog over the matter, is to write to the editor of a bee-journal for information, then comes the oft-repeated question, "Which is the best hive?" The editors, as a rule, generally succeed in finally disposing of the question to the satisfaction of all parties concerned.

From the fact that so many different sizes of hives are recommended by various bee-keepers of some experience, we may safely conclude that we have not yet got a perfect hive in any one of them. No doubt many of those in use at the present time and which have been given some high-sounding names by the makers, have not been gotten up with any special regard to the merits they possess, but simply to catch the unwary beginner. These hives, however, have, comparatively speaking, but a very short run, and then drop into oblivion; but, in the meantime, they have answered the purpose of the original maker to the detriment of the purchaser.

Time after time have we been asked the above question by persons residing in various parts of the Australasian colonies, notwithstanding the fact that we have taken every opportunity of advocating the use of the Langstroth hive, both through the local Press and the "*New Zealand Bee Manual*." It is not necessary here to recapitulate the details of our experience in arriving at the conclusion that the Langstroth hive is the best for all purposes, as we have already published them in full on more than one occasion. Suffice it to say that we were five years experimenting with various kinds of hives before adopting the "Langstroth;" and now, after five years' use of it, we feel more confidence than ever in recommending it to others. There may be other hives which will give equally as good results under experienced management; but, for simplicity of construction, its adaptability for all purposes, and the ease with which it may be manipulated, we believe there is not its equal in use at the present time. We have only to take into consideration the length of time that has elapsed since the Rev. Mr. Langstroth invented this hive (we believe about 30 years), and the fact that there are probably more of them in use now than all the rest put together, to be convinced that it *must* possess advantages not to be found in any of the others.

Since we introduced it into these colonies thousands have been made by manufacturers, and sent to all parts, giving entire satisfaction to all who are using them. We do not make or sell them now, therefore we have no interest in recommending this particular hive whatever, beyond the wish to see bee-keepers in the Australasian colonies adopt what we believe to be the best one. To all intending bee-keepers, and others who may be in doubt about the matter, we say: Try the Langstroth hive.

SWEET HOME.—A bee-hive.

**STANDARD FRAME FOR AUSTRALASIA.**

THE necessity of adopting a standard frame, *i.e.*—a frame of a size that shall be generally used amongst bee-keepers throughout the country—has been felt for some time past in Great Britain and America, where scientific bee-culture has, so to speak, passed its first stage. The disadvantages arising from having a number of hives and frames of different dimensions in use in the same country, must be apparent to any bee-keeper giving the matter the least thought. Its injurious effects would not be noticeable amongst bee-keepers in these colonies for some time to come, but they would assuredly overtake us sooner or later, did we not steer clear of the error that our brother apiarists, in the countries above mentioned, have fallen into. Of course, the knowledge of this error has only been gained by experience, and could hardly have been foreseen before bee-culture came to be so extensively practised as it is at present. It now only remains for us—the bee-keepers of the Australasian colonies—to profit by the experience of others, and adopt in the outset a Standard frame.

We will now point out some of the advantages of using a standard frame. In the first place, hives, sections, &c., could be obtained from the manufacturers at a much cheaper rate if they were required to make and keep in stock one size only, instead of several. In the next place, bee-keepers would find a more ready sale for their hives and bees, should they require to dispose of them, if their hives were of a uniform size with those in general use. There are also other implements, such as the extractor, which could be procured at a cheaper rate if but one size were needed. As these have to be made to suit each particular frame where several are in use, it is necessary that manufacturers and dealers keep in stock the different sizes suitable to the various frames, which, of course, adds to the expense of each. We could point out other advantages in using a standard frame, but we think we have enumerated sufficient to show the advisability of at once deciding upon a size of frame that shall be taken as a standard for these colonies.

The great obstacles in the way of introducing a standard size in England or America, are, first, the large amount of capital that has been expended on various sizes of frames and hives; and, secondly, the opposition of interested parties, who appear to be afraid that if a standard frame were adopted their own particular hive would be blotted out of existence.

Referring to the difficulty that would be experienced now in introducing a standard frame in England, the editor of the *British Bee Journal* makes the following remarks in the March number of 1882:—"The Standard-frame question was mooted by us in the winter of 1875, and had it been taken up by the Association at that time, when there were comparatively few frame-hives, or frame-hive makers, in England, it would have been easy of adoption. Now, when there are a hundred times as many hive-makers and vendors, and a thousand times as many hives in existence, it will be many years before a Standard will become general, because its introduction will be essentially slow. Manufacturers will object to it because it will necessitate the making (in most, if not in all instances) of a hive differing from that they already produce; and working hive-makers, with limited means, may find this a hardship, because it will necessitate having a double stock in preparation for the season."

Here we have no such obstacles in the way at present, and therefore could not possibly choose a better time for adopting a standard frame. We shall continue the subject in our next issue.

**FERTILIZING RED CLOVER AT MATAMATA.**

In this field Mr. Firth proposes to attempt the fertilisation of the red clover seed on a large scale. In the course of the first few days in February it was the intention of Mr Isaac Hopkins, the manager of the Matamata Apiary, to move 150 strong colonies, partly common and partly Ligurian, bees into this field. On the lawn at Matamata, and at other points in the neighbourhood of the apiary, when the clover had been cut, there was a very remarkable and very encouraging appearance of seed heads on the second crop. In some of the heads the seeds had just begun to form, while in others the seed was well grown, although in none that we inspected did we see the seed so far advanced as to assume the colour peculiar to it. This, however, is only a question of time. As the seeds obtained from many of the clover heads was of an unusual size, when such well-grown seed has been fully matured, it is not unreasonable to expect that their produce will be clover plants of more than ordinary vigour. In fact, an improvement of the clover plant may fairly be expected with a little judicious care and selection. All the patches of clover in which we found abundance of fertilized seed heads were situated within less than a mile of the apiary, and an equally beneficial result may fairly be expected in No. 2 clover field when Mr. Hopkins's army of little busy workers have been introduced to it. This field is too distant from the present apiary for the bees to work on it with satisfactory results.—*Auckland Weekly News*, Feb. 3rd, 1883.

[Shortly after moving about 50 hives to the clover paddock, bad weather came on, and continued at intervals the whole time the clover was in blossom, so that we did not succeed in getting a test on a large scale; but we have faith in the fertilization being carried out successfully at some future time.—Ed.]

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

**MAKING AN IMPROVED HONEY-EXTRACTOR.**

R. WILKIN.

[THE following is an account of Mr. Wilkin's method of making an improved honey-extractor that will extract from a number of combs at once, and, at the same time, do away with the work of lifting and turning them necessary in the ordinary extractors. The combs are placed in wire baskets, hinged or pivoted at one end. After extracting from one side of the comb, the motion of the extractor is reversed, which cause the baskets to make a half revolution, thus bringing the other side to the front. The amount of time and labour that would be saved by the use of these extractors in large apiaries would be enormous. We are having one made, and as soon as it is in working order we will publish a detailed description of it for the benefit of our readers.—Ed.]

Since last writing you, I concluded that I could make an eight or ten frame extractor, better proportioned and to work better than one to take a less number. There is also another advantage in a large extractor—the greater circumference gives speed enough without gearing. I wished to make mine all myself, so that I could modify it to suit me. The expenses were—material, eleven dollars, including one dollar for blacksmithing, and nine days work of my own. I suppose a good tinner would have done it in five or six days. The baskets to hold the combs is the largest job. These are, of course, made with two sides, like a narrow case; each side being similar to the sides of the ordinary extractors. After making the revolving parts, I made a wooden box and lined it with tin, to turn the baskets in. On the centre of the bottom, I soldered a broad nut with a pivot 2in. long and  $\frac{3}{8}$ in. in diameter standing firmly in it, the point being rounded off for the journal to rest on. The journal is a gas-pipe,  $\frac{3}{4}$ in. in diameter; a rod of iron, 2in. in length, is driven into the lower end of it until the rod goes up the pipe about an inch. Weld it solid there, and drill a little hole into the end for the pivot to work in. I now make a funnel or cone out of a sheet of tin, and solder another sheet over the large end of it. A hole is punched through the centre of this sheet the size of the journal; the little end of the cone or funnel must be just the size of the journal. Now slip this on the journal little end down. Make another cone the same size, and put it on the journal from below, little end up. Let the two small ends of the cones meet—the bottom end of the lower cone being about even with the end of gas-pipe—and solder them securely to the journal. The large ends of the cones are also soldered to the journal. At this stage it has somewhat the appearance of a large hour-glass. Between the cones I solder a band of tin, 6in. wide by 14in. long, to stiffen them and make all solid.

These cones or funnels are mainly to rest the arms on which support the baskets. The arms I make of tin rolled double thickness,  $\frac{1}{2}$ in. in diameter (larger might be better). Into these I drive a plug of wood where most strength is required to prevent their giving way. The eight upper arms are soldered in their respective places on the large end of the upper cone; the ends of the arms being also soldered securely to the journal. Now invert the journal and solder the other eight arms on the large end of the lower cone in the same manner.

Each basket to hold the Langstroth frame is made of two sheets of wire cloth 10in. x 16in. soldered inside against strips of folded tin to strengthen them. The bent tin forming the back of the baskets should extend above and below them  $2\frac{1}{2}$ in., and have a rivet soldered in each end as pivots to work in holes punched through the tin arms (three inches of the ends being flattened for this purpose),  $1\frac{1}{2}$ in. from their outer ends for the upper part of the basket, the lower part being set a  $\frac{1}{2}$ in. farther in towards the journal. This slight incline of the baskets cause them to stand in place when the motion of the extractor is reversed. The supports for the lower ends of the frames at the bottom of the baskets should extend  $\frac{3}{4}$ in. below the baskets and be made stiff and flat, or the heavy combs will bend them down in the centre, and cause the frames to stand out from the sides of the baskets, leaving the combs without support. In this case the centrifugal force required to throw out the honey would break the combs away from the frames.

In the bent part of the back, or hinged end of the baskets, solder pieces of tin like the face of a thermometer 2in. x 2in. to stiffen them. Folded strips of tin should reach from the outer end of each upper arm to the arms at each side below, and be soldered together where they cross; thus firmly binding all the arms to each other. The strips also answer for the baskets to rest against when the extractor is in motion. I must now go out to the apiary and take measurements.

The gas-pipe or journal is 30in. in length; arms,  $18\frac{1}{2}$ in.; space between upper and lower arms at journal, 2in.; lower arms above lower end of journal, 2in.; above bottom of tank or box, 8in. The box or tank is 39in. square, by 27in. high, inside measure. A cross-bar, 2 x 4in., is placed across the centre of the top; or, one edge may be flush with the centre, and a keeper screwed on for the upper end of the journal to work in. Let down the ends of bar  $\frac{1}{2}$ in. on to the tank. The large ends of the cones or funnels are 13in. in diameter; the sheet soldered on them might extend out all round a  $\frac{1}{2}$ in. to give additional bracing. Of course, one brace under each arm might answer the purpose, but is not so strong. The crank or handle for turning the extractor is 6in. long, placed right on the upper end of journal. So you see your eight baskets are all hinged to the outer ends of the arms and turn in towards the journal between them. Solder the braces of your baskets well. It looks very simple when finished, but, like most other things, difficult to describe without diagrams.

I am really delighted with the way mine moves off. If I find any defects I will let you know; I have only just commenced to use it. The great improvement lies in extracting eight combs at a time, instead of two or four, and reversing them as often as required without having to lift them out. This often is the cause of breaking new combs.

LATER.—The only defect I find in the extractor is weakness in the outer bracing of the arms.

June 4th.—We are now extracting freely the most delightful honey.

San Buena Ventura,  
California, May 7th, 1883.

## BEE-KEEPING AT MATAMATA.

### THE MATAMATA APIARY.

BEFORE leaving the bee question we may allude to Mr Hopkins's opinion of the Matamata district as a location for a bee-farm. On visiting the Matamata Apiary, Mr I. Hopkins, the manager, kindly showed us through his workshop and bee-farm. The work-shop is a substantial building, 34 feet by 14 feet, to which is about to be added an office, honey room, and fumigating room. At one end of the present building is the wax room, 14 feet by 14 feet. In this there is fitted a large stove, having two pairs of boilers, or water baths, for the purpose of melting the beeswax used in the construction of artificial comb foundation, a large quantity of which was just being packed for shipment at the time of our visit. Mr Hopkins informed us that during the last four months he had made up nearly a ton, the whole of which, with the exception of 800lbs. used in the Matamata Apiary, had been sent to order to various parts of the colony. We saw a very fine sample of thin



foundation made on a new machine lately imported. This quality is made specially for use in section boxes (comb honey). Mr Hopkins has made several labour-saving appliances in this department to facilitate the work, and he intends, with the rapidly increasing demand for comb foundation, to be in a position to supply his customers as hitherto with the best and most improved makes of this article. The other part of the shop is used for making hives, section boxes, honey crates, queen cages, and all the various appliances used in the apiary. In this part we saw a very ingenious contrivance for cramping the different parts of the hives together, and holding them firmly while nailing the pieces. As there are 98 pieces to each complete two-storey hive, it will be seen how useful and necessary an appliance of this kind must be where hundreds of hives are being made up during a season.

On leaving the workshop to inspect the apiary—which is situated in a sheltered hollow, about 100 yards from the workshop—we passed over a considerable area of ground devoted to the propagation of various honey plants, the seeds of which have been obtained from different parts of the world. There we saw the celebrated white and purple sage from California; mellilot clover, six feet high; Cleomeungens (spider plant); figwort (*Scrofularia nodosa*); motherwort, catnip, silver hull buckwheat, and giant mignonette from the United States; as well as Phacelia, *Arabis Alpinus*, and *Limnanthus Douglasii* from England. All the above, we were informed, are amongst the best honey plants known. As cultivating for bees has now been proved to be a profitable work in America, we doubt not that the area thus planted will form the nucleus of an extensive honey farm in the future.

The apiary itself is a sight well worth a visit to Matamata. The long rows of white painted hives standing out in relief against a background of dark green—formed by a clump of tall ti-tree—the continuous flight to and fro of myriads of bees overhead, their loud contented hum, and the delightful fragrance of the honey plants in blossom around the apiary adds one other charm to Matamata. The number of colonies in the apiary at the commencement of the season, including those brought from the Thames and Waikato, was 99; but several of those from the Waikato died from the effects of moving such a long distance over a bad road—being very weak at the time of removal—and others in a weak state were amalgamated, so that the number was reduced to about 70 at the commencement of the clover harvest. These, with careful management, were rapidly strengthened and increased by natural and artificial swarming till the number stood at the time of our visit 170 strong colonies and 16 nuclei. Owing to the weak state of the colonies at the start, together with the lateness of the season, Mr Hopkins considered it advisable not to work for honey for market this year, but to increase the bees all he could, and to Italianise them all if possible. This so far he has accomplished beyond his expectations. We noticed most of the hives were two and three storeys high, and in one case five storeys high. Mr Hopkins informed us that this colony is a swarm of the present season, and on the 19th January had stored nearly 180lbs. surplus honey. He then gave them another story, in which they are now working, and expects them to finish it before the season is past. This will make another 60lbs., or 240lbs. surplus honey in all, without counting the lower story, which will be left for the bees' winter stores. Besides storing all this honey, they have built out 50 sheets (50 square feet),

of comb to store it in. The parent colony has thrown off another swarm besides this, which has 210lbs. surplus honey. This, together with about 100lbs. it has itself, makes for the one colony and its increase 460lbs. surplus honey, and the season not yet ended. This is a result truly wonderful. Many other colonies have done remarkably well; in fact, all of them have a large amount of surplus honey, which will be made use of to increase the bees. Mr Hopkins estimates that had his colonies been in good condition at the start of the season, he could have raised five tons of honey before the close of it.

Queen-rearing is quite a feature in this apiary. They are being raised from the best of the imported stock, both for sale and home use. The imported bees consist of Ligurian and Holylanders, which Mr Hopkins has proved to be far superior to the black bee. It may be as well to mention that the colony that has stored so much honey is a hybrid—a cross between the Ligurian and black bees, which by some are considered as good honey gatherers as the pure Ligurian, although not so gentle. The very large number of bees seen working on the second crop of flowers of the red clover, and the heads of clover well filled with embryo seed, speaks well for the theory so often advanced, viz., that the red clover can be fertilised by the honey bee. A book is kept (the Apiary Register) in which the history of each colony is given, and the dates of the various manipulations, for reference at any time, so that everything here is done in a systematic manner. Altogether, we were extremely well pleased with our visit, and must congratulate the proprietor, Mr J. C. Firth, and the manager on the success of the honey industry at Matamata; for it is now proved, beyond a doubt, that the honey resources of the district are practically without limit. We are aware of many apiaries being started on the scientific principle in this country, and believe there is a grand future for bee-keeping in New Zealand.—*Auckland Weekly News*, Feb. 3rd, 1883.

[Since the above was published the additions have been made to the workshop.

We have been asked by a bee-keeper who has read the above, our reason for having so many stories on our hives. We will explain. We were but just forming the apiary and had no convenient place for storing the honey at the time, and, as we did not intend to send any to market, the safest place for it was on the hives.—Ed.]

**GRADING COMB HONEY.**—The Thurber Bros., of New York, have the following to say on this subject:—Comb honey must be graded all throughout the crate of uniform colour, and the sections well filled. Showing the best only on the outside, and filling the interior with a lower grade, works disastrously to the shipper and is not even policy. The more attractive in appearance the honey is, the quicker the sale and the better the price. Honest grading tells very quickly, purchasers usually leaving orders for the whole of the next consignment of the brand which has pleased them in this respect. Thus it will be seen, that while the market may be filled with a fair quality, these special brands find ready sale on arrival, whilst others drag, causing returns to come in slowly.

The annual consumption of honey in Paris alone, says the *American Bee Keepers' Exchange*, is estimated at 20,000 tons. As many as twenty houses are engaged in the trade.



(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.

### HIVING TRAY.

SIR,—I herewith send you a description of a hiving tray which, I may say, I was forced to invent. I did not succeed very well in getting swarms into frame hives before I made the tray. Now I can do it so handily that I often have the hive with the new swarm placed in its permanent position in half an hour after the swarm issued; for, when the bees are in their new quarters, the sooner they are put where they are to remain the better; if the bees are slow in going up, I let them remain where I took them till sundown.

The tray is made of half-inch wood, for lightness; it is five inches longer and one inch wider inside than the outside measurement of the hive. On the sides and one end of the bottom board are nailed pieces of half-inch stuff, projecting three and a-half inches above it, with two 3 x 3/4 in. battens nailed on the bottom, and also a leather strap tacked on underneath, by which to hold the tray while shaking in the swarm. Four fillets, 1 1/2 in. square by 3 in., are nailed inside the tray—one at each corner—for the hive to rest upon when placing it over the bees.

The method of using the tray is as follows:—When a swarm has settled on a branch that can be shaken, take the tray in the left hand by the strap and hold it close under the swarm, give the branch a smart shake or two with the right hand, which will cause all the bees to fall into the tray. Place it on the ground immediately and put the hive over the bees, resting it on the four fillets inside the tray. Cover all up except the front with a sheet, and shade from the sun. The front being open, any bees that are outside will readily find access to the hive, and in a short time the whole of the bees will be up amongst the combs, when the hive may be placed on its permanent stand. When a swarm settles on a limb or anything that cannot be shaken, I hold the tray as near below it as possible, and with a turkey or goose's feather brush the bees into it, and place it on the ground as before. I have found the tray so useful and so easily managed that, were I compelled to do without it, I would give up frame hives, through the bother and trouble of getting the bees into them.

W. H. J. SMITH.

Kyneton, Victoria.

[If our correspondent had followed the instructions given in the *Illustrated N.Z. Bee Manual* he would have found no difficulty in hiving swarms.—Ed.]

### MOVING BEES.

SIR,—As there may be other bee-keepers who, like myself, may have occasion at some time to move their bees, a knowledge of my first experience, perhaps, may be of

service to them. Some short time ago I removed from Coromandel to Auckland and brought my bees (ten colonies in Langstroth hives) with me. The way I packed them was as follows:—I securely wedged the frames by putting pieces of thin battens between them, instead of nailing them as you suggested in your letter. I found this method to answer equally as well, and is less trouble. I had lots of packing-case zinc, which I cut up to the proper size to tack over the tops and bottoms of the hives. I then punched it full of small holes; the zinc being soft and thin, this job does not take long. This perforated zinc I tacked over the top and bottom of each hive, doing away, of course, with the bottom boards and covers.

I was unfortunate in having a rough passage by steamer from Coromandel, and it rained heavily for two days after I got the bees here. So that it was three days before I could unpack them. I then found that the new combs that were heavily laden with honey in four of the largest colonies had broken down and smothered large quantities of bees. I drove out the bees from one of these hives and arranged the combs again; but, owing to their being heavy with honey and brood, the cold weather coming on, and robber bees being troublesome, I thought it best to let the others remain as they are until the spring. I notice the bees of the injured hives bringing in pollen every fine day—there being plenty on the acacias just now—so I suppose the queens are all right and breeding a little. I am feeding them sparingly. I don't know that I shall have room for or time to look after any more than the ten colonies, if I have I should like to get some Ligurian queens.

JAMES LANGFORD.

Parnell, June 25th, 1883.

### EFFECTS OF BEE-STINGS.

In the *Journal* for December, "E. H. B." wishes to know the treatment to be adopted when a man or woman gets into a state of coma from a bee-sting, which, of course, will depend on the cause of the coma.

The bee-poison, when taken into the system, gives rise to a form of blood poisoning, but as the amount of poison even from twenty stings is so small, the symptoms, except in those cases where the person stung is in a bad state of health, never become serious.

Death has resulted from persons having been stung inside the mouth, or the throat, by eating fruit, honey, &c., in which a bee has been overlooked, and the swelling caused by the bee-poison, closing up the windpipe, has killed the patient by suffocation.

In these cases the only remedy would be to make an artificial opening in the windpipe, an operation difficult even for an experienced surgeon.

In those cases where death is imminent from "shock," the best remedies would be stimulants, either in the form of brandy, whisky, &c., sal-volatile internally, or by injection under the skin, strong coffee or tea, together with galvanism, and hot cloths applied to the head and chest.

The after treatment would consist in building up the patient's strength by means of stimulants, strong beef-tea and soups, milk and eggs, with quinine, bark, and mineral acids.—GEORGE WALKER, L.R.C.P., Wimbledon, 22nd Dec., 1882.—*British Bee Journal*.

A correspondent asks: "What is the difference between a swarm of bees and a sewing bee?" Answer. None as far as buzzing is concerned.



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

### BAYVIEW APIARY, KATIKATI:

SEASON 1882-'83.

A SHORT description of the locality may be useful in order, when compared with other cases, to assist in leading to a conclusion upon the question—How are the results of an apiary affected by its general position, and the particular circumstances of its neighbourhood?

It is on the East Coast, about half a degree south of Auckland, close to the Tauranga-Thames road, and midway between the Tahawai and Tuapiro rivers, which are crossed by that line. The surface of the neighbouring lands is undulating, lying between a mountain range (extension of the Coromandel range) on the west, and the shore of the inlet of the sea which extends from Katikati Heads to Tauranga on the east side. The immediate position is at the bottom of a gully which runs from S.W. to N.E., is closed in and well sheltered at the S.W. end; and the slopes and bottom of which, about four acres, are enclosed for garden and orchard purposes. The apiary is near the middle of this enclosure; a small stream runs through it from a spring, which supplies sufficient water at all times of the year. The place is laid out for 100 hives or more, the sloping ground being formed into small terraces, at least six feet wide and rising a foot or two one above the other, so that the floorboard of the second row of hives stands about level with the roofs of the first row. The hives are six or seven feet apart in each row, and those in the next upper row are, of course, placed so as to face the centre of the spaces in the lower row; there is thus a free flight to the entrance of every hive, and there is ample space in each terrace behind the row for a barrow road and to admit of manipulating the hives in front without injuriously interfering with those behind. In the garden and orchard there are already about 200 young fruit trees of all sorts, a great quantity of flowers and flowering shrubs, and about the place, within a short distance from the apiary, a number of ornamental and shelter trees, amongst the latter, acacias, and blue and red gums. In the immediate neighbourhood there are grazing farms which afford abundance of white clover in the season. The nearest bush on the side of the range is about a mile distant, and between one and two miles there is plenty of bush, for the greater part rewarewa and manuka. Within a radius of a mile from the apiary there are, besides, four or five houses with tolerably large flower and fruit gardens or orchards.

We commenced the season with fifteen colonies in all, of which, however, only four were in thorough working order and in strong condition; two were moderately strong, six weak, and three very weak. Most of these latter nine had only been artificially formed near the close of the previous season by uniting small swarms, bees transferred or driven out of old box-hives, etc., and had not got into sufficiently strong condition before

the winter. Seven of them had to be united with new swarms in October and November before they began to do any good, so that we can only consider we really commenced the season with *eight* colonies, and that only half of these were quite as they should have been.

In November, three colonies were added, formed of strong swarms obtained from the bush and elsewhere; and in November, December, and January, eleven new ones were formed with swarms from the apiary, so that in January, '83, the number of working hives was 29, besides two queen-rearing boxes and a small observatory hive. The swarms were all hived upon frames, with comb-foundation, which, as well as the frames in nearly all, the supers had of course to be worked out by the bees in the first instance.

The quantity of honey taken was 1718lbs., of which 1592 were extracted, and 126 comb-honey in section boxes.

Two hives have since been united, and we go into "winter quarters" with 28 colonies, of which 25 have now in reserve the supers, with frames of fully-worked comb.

If we assume that the apiary consisted of 18 colonies (including the 3 extra swarms) in November, '82, the result given is an average production of 95lbs. per colony, and an increase from 18 to 28.

Taking the 8 which were actually at work before October, I find that they, with their swarms, gave 958lbs., or an average of 120lbs., and increased from 8 to 14.

The 4 strong colonies, with their swarms, gave 663lbs., or 166lbs. for each colony, and increased from 4 to 7.

The largest production from one colony and one hive (did not swarm) was 184lbs.; the largest from one colony, with its swarm, 180lbs.

In order to show the advantage of a *heavy* swarm hived pretty early in the season, I may mention that the first swarm of bush bees weighed 10lbs. It was hived on the 31st October on ten frames of foundation. On 5th November all were worked out; extracted 8lbs. of honey, and put on supers, with ten more frames of foundation. Up to 30th November we had already extracted 50lbs. The bees were then forming queen cells; took these out and added a third story, with ten more frames of foundation *between* the original hive and its super. Up to 28th December, had extracted 98lbs.; and up to 22nd January, 150lbs. in all. Thus this swarm, within twelve weeks from being first hived, had given 150lbs. of surplus honey, besides working out 30 frames of comb-foundation. It also gave off a swarm (which was evidently a heavy one) on New Year's Day, which was unfortunately lost, as there was no one near the apiary at the time.

June, 1883.

T. J. M.

### APIOULTURE IN THE WESTPORT DISTRICT, N.Z.

SIR,—I purpose giving, through your columns, for the information of your readers, a general report of bee-keeping in the Westport district. In doing so, I will state the names of various apiaries I visited, and give a short account of each.

I will commence with the Westport Apiary, the proprietor of which is a progressive apiarist, and, consequently,

has all his bees in moveable-comb hives. His swarms are supplied with that greatest of modern apistical inventions, artificial comb foundation; and he is also using all the latest appliances in connection with advanced bee-culture. On a former visit to this apiary some years since, I noticed that the hives were formed of square boxes, having small windows at back and front. These boxes were arranged for working bell-glasses on top, which held, when full, from six to nine pounds of honey. This, with the exception of driving the bees at the end of the season, was the proprietor's only method of taking his surplus. At that time he—the proprietor—considered his bees done remarkably well, but he now tells me he can get as much honey from one of his present hives, viz., "Hopkins's Langstroth," as from six under the old principle, even with the best management. He has been very successful during the past season, and expects to do much better next, now that he has had some little experience of the working of the modern system. It is a great loss to the bee-keeping interests of this district that the owner of this apiary has, owing to his business, so little spare time to devote to bee-culture.

I next visited the Sergeant's Hill Apiary. This is very nicely situated at a new farmstead, where there has not been much clearing done in the neighbourhood; it is a thickly-timbered locality, and I should imagine, a capital place for bees. Last season the owner started with four hives, two on the old, and two on the new system. The apiary now numbers ten stocks, all in "Hopkins's Langstroth" hives. The result of last season's work was 300lbs of surplus honey and increase of from four to ten hives. The owner expects to do much better on an average next season, as his bees are now in splendid condition. He is using all the latest appliances in bee-culture, including the honey extractor, which he says is a grand invention. Of this apiary I have great hopes, and have no doubt, in a short time I will be able to give you a very good account of it.

The Snag Falls Apiary comes next in order. Of this bee-keeper I cannot say much. When I paid him a visit some six years since he had twenty-four stocks in square boxes; but they have now dwindled down to six, and still under the old system.

I now come to another apiary which I will not name. It is composed of some twenty-five boxes of bees. The boxes are of different sizes, most of them having frames, the surplus honey being taken away in supers. On my visit to this apiary a few days ago, I was surprised to see how the bees were neglected. I noticed a number of boxes covered with half rotten sacks, and some of them anything but upright, so that it would require but little wind to blow them over; there was also a great deal of wax strewn about. I would not be at all surprised to hear that a number of these stocks had died before spring sets in.

The next to receive a visit from your correspondent was the Blow Hole Apiary. This is situated in an orchard, and I should think a very fair place, but rather near the sea. The proprietor of this apiary has made rapid strides for the time he has been cultivating bees, as two years ago he had but one stock, and now has nine—four in "Hopkins' Langstroth" and five in common boxes. He is using artificial comb-foundation, and if he keeps on as he is doing at present, will soon have a profitable bee farm. The owner of this apiary kept bees in Canada, so that

he is not quite a novice at the work. There are a good many cottagers about this district who keep one or two hives of bees, but most of them are in the old style of boxes. Advanced bee-culture is but in its infancy here, and I have no doubt, with the aid of your Journal and the example already set by a few progressive bee-keepers, that scientific bee-keeping will become a very popular industry in this district within the next few years.

J. B.

Westport, June 2nd, 1883.

*We are in receipt of several communications from our correspondents, which arrived too late to be inserted in this issue, but will be published in our next.*

## 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.—Wired Frames, Honey Racks, Ligurians, &c.**—1. I am wiring all my frames for brood and extracting. Do you think this a good plan? 2. What is your experience in regard to the carriage of comb honey in 1lb. sections. Could it be sent to England by direct steamer with any probability of its arriving safely, packed in cases holding say 4 dozen? A London dealer sent me a circular describing an outer case provided with rubber balls on which the inner case containing the honey rested, but the price of the article was rather a fancy one. 3. I propose adopting the following simple plan for turning out comb honey, and will be glad to know how you think it will work. Instead of the broad frame and tin separator, I nail a narrow strip across the sides of the case and fasten seven battens to the lower side of it, along which I lay the section boxes, and between each row slip in a wooden separator, the lower edge of which rests on the cross strip. This is a very simple sort of rack, and I see no reason why it should not do as well as a more complicated and expensive contrivance. 4. In a district teeming with bees, would there be any use in introducing Ligurians? Would they not very soon revert to the black type?—G. Stevenson, Ormond Apiary, Gisborne.

**REPLY.**—1. We have not yet used any wired frames, so cannot speak from experience, but believe from reports we have read that thin wire, when properly inserted in the septum of the comb, strengthens it and prevents all sagging or stretching. Though with regard to sagging we have had very little to complain of on that score, without the aid of wires, and we cannot help thinking that the need of wire was brought about in the first place by the use of adulterated wax in making comb foundation. When a heavy swarm is put into a hive in warm weather on sheets of foundation in all the frames, the hive should be shaded for a few days from the direct rays of the sun, and plenty of ventilation allowed; this will prevent the comb stretching to any appreciable extent. 2. Our experience does not extend farther than sending crates of comb honey from the Thames and Matamata to Auckland, which has always arrived without mishap. We believe it could be sent to England in good order by direct steamer with care, providing it could be placed in a room kept at an even temperature of about 50 degrees Fahr. We intend to try a small shipment during the coming season. We would advise you to use cases or crates holding two dozen 1lb. sections, instead of four dozen, as they are much easier handled; placing each two crates into a skeleton case so that the glass of the crates while being protected would allow of the contents being seen. We have seen an engraving of the

case you mention with the rubber balls, but they would be rather expensive to obtain here. 3. We experimented with comb honey racks some four or five seasons ago, but soon gave them up. Our objection to them was the difficulty—as compared with the frame system—in “tiering up,” which is generally required in raising comb honey, and the liability to kill a great many bees when changing the sections by crushing them on the bars that support the sections. 4. Yes, it would be of use to introduce Ligurian bees into a district such as you mention. Is this not being done every season? It might probably take you two or three seasons before you could breed sufficient pure queens to stock the whole of your apiary. The first batch of queens you raised in all likelihood would be mated with black drones; these queens would produce hybrid workers but pure drones, thus giving you a greater chance of purely fertilized queens out of your second batch, and so on.

QUERY.—*Single-comb Honey Extractor*.—I have purchased an extractor—Fig. 16 in your *Manual*—from Bagnall Bros., Turua, Thames, and I should feel very much obliged to you if you could give me any further information how to use it. I have worked it according to the instructions laid down in the *Manual*, but I am sorry to say I could do nothing with it. It seems to me that the meshes of the wire netting against which the comb rests are too small.—John Collins, Tuakau.

REPLY.—We judge from the fact of you mentioning the wire netting that you have caused the extractor to revolve at too great a speed, thereby crushing the ends of the cells containing the honey against the netting, and so obstructing the flow. When commencing to extract—especially if the combs are new and heavy with honey—the extractor should be turned slowly until the comb is lightened a little, the comb then reversed and the other side treated in the same manner. Some kinds of honey, such as flax and some of the bush honey, is most difficult to extract, and can only be got out of very old tough combs without breaking them.

QUERY.—*Price list of Hives, &c.*—I have been much interested in your *Bee Manual*, and have been working to some extent on your lines this season. I shall be obliged if you will forward a price list for my information. Sir W. Fox informs me that you only supply the foundation comb yourself now; but perhaps you can tell me where I can procure the other requisites. If you can give me an idea of the cost of freight and packing also, I shall be indebted to you.—Thos. Awdry, Tadcroft, Wanganui.

REPLY.—Messrs Bagnall Bros. & Co., whose advertisement appears on another page, is the only firm that we are aware of at present in N.Z. who issue a price list of hives, &c. Write to them; they will give you all particulars. We have forwarded our list.

QUERY.—*Hives, Swarms Absconding, &c.*—Sir, I have been reading with great interest your *Bee Manual*, but am prevented by difficulties at the very outset from carrying out its instructions, and therefore trust that you will excuse my troubling you on the subject. Last year I bought of Mr Knight, of Gisborne, two swarms of common bees, and afterwards got from Canterbury a bar-frame hive, I imagine like those which you recommend, but that it has no upper storey. The cost of these, including freight, &c., &c., was between £4 and £5; the return which they yielded was 15lbs. of honey, got from a common box in which I hived a late swarm. Mr Knight's hives have supers containing eight glazed boxes, which in his apiary the bees fill rapidly, but in which here they did not begin to build comb till the season was nearly over, and then very slowly. Three swarms which I took in boxes and then transferred to the bar-frame hive deserted it, though one swarm had built several blocks of comb in it. A gentleman told me that a friend of his induces swarms to

remain by putting into the hive a bar filled with honey; but I am met by the difficulty that I have not such a bar to start with. My only chance seems to be to get a bar-frame hive in which the bees are already established, and as you speak of sending away honey, it occurred to me as possible that you might also sell bees. If so, will you kindly inform me at your earliest convenience what would be the cost of a swarm, in a Langstroth box with an upper storey, whether there is any way of sending them safely here, and what the carriage would come to. I should prefer Italian bees, but that I am told they injure fruit, which would be a serious drawback as we are having a large orchard planted. If therefore they do pierce fruit, I must content myself with the ordinary black bees; or if the two different kinds would be likely to fight? I should also esteem it a great favour if you would tell me whether there is any plan by which I could get the bees I have to work in the supers in Mr Knight's hives; and, supposing that I ever get sufficient honey to sell, where I should find a market for it at the prices you quote? I do not think it would be at Napier, as nearly all the small settlers keep bees (on the gin case and sulphur pit plan) and sell the honey at 6d. per lb. I trust that you will forgive me trespassing thus on your time, when I add that I am not taking up apiculture as a mere hobby, but as a means of livelihood, in which, if only I get fairly started, I might hope to succeed, as other ladies seem to have done.—H. L. Murdoch, Hastings, Napier.

REPLY.—You certainly appear to have had a very poor commencement with your bees. In the first place, we consider the cost and freight of your hives was excessive, especially as they were only one storey hives. You should get two double-storey hives, fitted with sections for comb honey and comb foundation complete, landed in Napier for much less than £4. We could not say why your bees did not begin to build comb before the season was nearly over, without further particulars; your colonies may have been considerably weakened owing to the transportation from Gisborne, or, as you speak of having taken three swarms, they may have been weakened by over-swarming; in any case the weaker the colony the less comb would be built in a given time. We cannot account for your swarms leaving the hive unless there was something distasteful to the bees about it; we have no difficulty with our swarms in getting them to remain after hiving them; look up your “*Bee Manual*.” A frame of honey given to a swarm is very good if you wish to feed it a little to start with, but a frame of brood is a better inducement for the bees to remain. We have sent you a price list of Italian bees. Your fears with regard to bees injuring your fruit are unfounded. Bees cannot puncture fruit, nor do they go near fruit until some other insect has made an opening for them. We could not advise you how to get the bees into the supers of Mr Knight's hives, as we do not know what kind of a hive it is; possibly the gentleman could tell you himself. We would strongly advise you to use the “Langstroth” hive, and work according to the directions given in the “*Manual*.” You will find the market quotations in another column; we consider 6d. per lb. for sulphured honey to be an extra good price. We shall be happy to assist you all that lays in our power in your undertaking, and advise you to persevere, and hope that many other ladies will follow your example in taking to beekeeping for a livelihood.

SIR JOHN LUBBOCK, who has made a special study on bees, says they can distinguish colours, and that they have a decided preference for blue. He reached this conclusion by placing honey on pieces of paper of different colors and depositing the papers on a lawn where the bees came for food.

Subscriptions for the BEE JOURNAL may be commenced with any month of the year.

## FROM OUR CONTEMPORIES.

### BEEES AND HONEY IN ANCIENT TIMES.

In reprinting the following article we have much pleasure in complying with the request of the editor of the *American Bee Journal*, who says:—"We have prepared the first article in this paper with especial reference to its adaptability for general reading, and respectfully invite the editors of our exchanges and others to copy it into their papers."

In the books of antiquity, honey is mentioned as one of the necessaries of life—man's first source of nourishment. Aye, and are we not informed that when "the morning stars sang together" over the pristine beauty of a new-born world, that under the bright smile of Heaven, Adam and his happy spouse were presented with a glorious home in an enchanting garden filled with "supernal fruits and flowers" of Heaven's own planting—nurtured and watched by hosts of angelic attendants, who had made that Eden-home a beautiful Paradise? There "the beasts of the field and fowls of the air" dwelled together in perfect harmony, under sun-lit skies; and among the beautiful bowers of that holy retreat, Eden's feathered songsters rapturously joined in "the swelling chorus."

There, too, revelling in the precious nectar yielded from the bloom of glory-clad hills, shrubs and flowers, was "the little busy bee," with its joyous hum and rapid flight—gathering the plenteous sweetness for the tiny but numerous family about to spring into existence, at its little home! Ever did it flit from leaf to leaf and flower to flower, gathering the honeyed treasures, that its "stores" may be abundant for generations yet unborn—when winter's sable-shades might settle down upon the earth, visiting it with cold and storm, chilling the "little pets" by its frozen breath or fiercer blast!

No historian has transmitted to our day a description of the rude hive provided for the bees that Noah carried into the ark, nor are we informed whether Abraham's bees were kept in log-gums or box-hives, but it is recorded that the land where Abraham dwelled—Canaan—was one "flowing with milk and honey;" and when the old Patriarch, because of the famine that prevailed there, sent his sons to Egypt to buy corn, he sent as a present to the Egyptian ruler some of Canaan's famous honey. We may well conclude that Canaan's honey was then as famous as in subsequent ages was the honey from Mount Hymettus in Greece.

In later years, Abraham's offspring journeyed through the deserts of Arabia, and in order to sustain them there, God gave them manna from Heaven to eat; they said that "the taste of it was like wafers made with honey." When the Amorites came out of the mountains of Sier against the children of Israel, "they chased them like angry bees." In the Mosaic law we find many statutes regulating the ownership of bees. When Jonathan was engaged in battle with the Philistines and became tired and faint, he partook of honey, and was greatly refreshed. David and his army were provisioned in Gilead, and honey was one of the luxuries enumerated. The Jews placed honey before their guests as a sign of welcome, giving them the greatest luxuries that the land produced. Jeroboam sent his queen with presents to Adbehaja the Prophet, including

honey. In the tythes of the Jewish Priesthood, honey is enumerated. Job signified the plenteousness of honey in the land, by speaking of "brooks of honey." Solomon relished Canaan's delicious honey, and volunteered this advice: "My son eat thou honey; because it is good." Isaiah mentions "the bee that is in the land of Assyria," and declares that bees were so plenty that "butter and honey shall every one eat that is left in the land."

The earliest mention of honey as an article of commerce, is, that the Jews were engaged in trading it at Tyre, that old and honored mart of trade in Phœnicia. Sirach, who lived about the time of the re-building of the Temple of Jerusalem, speaking of the necessaries of life, mentions honey, with flour and milk. Solon, in the year 600, B. C., enacted a law, requiring that bee-hives in cultivated fields must be 300 feet apart. Homer, Herodotus, Aristotle, Cato, Varro, Virgil, Pliny, Columella, and other ancient sages, composed poems, extolling the activity, skill, and economy of bees. The celebrated Slician apiarist, Aristomachus, of Solus, with 58 years of experience in bee-keeping, wrote on the subject of bees and honey, some 500 years, B. C.,—but that work is lost to us. The Persians, Grecians, and Romans, used honey quite extensively as an article of diet; they also used it largely in preparing their food, and by it most of their beverages were sweetened.

More than 3000 years ago, it is said that Samson proposed this riddle to the Philistines: "Out of the eater came forth meat; and out of the strong came forth sweetness," and gave them seven days to expound it. They are said to have been unable to explain it, and by threats of burning his wife and all her kindred, they extorted the explanation from her, as follows: "What is sweeter than honey? And what is stronger than a lion?"

Samson was not only a riddle-maker but was himself a riddle. It is said that while he was quietly walking, unarmed, in the vineyards at Timnath, "a young lion roared against him," and "he rent him as he would have rent a kid." "After a while, he turned aside to see the carcass of the lion, and, behold, there was a swarm of bees and honey in the carcass of the lion." Thereupon we are told that he commenced to regale himself on the honey, and gave of it to "his father and mother, and they did eat." This was the key to his riddle.

Of course it was very singular that he should have slain a lion in the prime of his vigor, and yet more strange that a swarm of bees should have taken possession of the carcass.

This remarkable story of ancient times is full of enigmas. In explanation of some of these, Oedman remarks as follows:

The lion which he slew had been dead some little time before the bees took up their abode in the carcass, for it is expressly stated that 'after a time' he returned and saw the bees and the honey in the lion's carcass; so that if any one here represents to himself a corrupt and putrid carcass, the occurrence ceases to have any true similitude, for it is well known that in those countries, at certain seasons of the year, the heat will in the course of 24 hours, so completely dry up the moisture of the dead camels, that without undergoing decomposition, their bodies will long remain like mummies, unaltered, and entirely free from offensive odour.

"In that country, it is said, that with wildbeasts, birds, and insects, coupled with the dry heat, a dead body is soon cleansed from all corruption, and the bones are clean and white, and a swarm of bees may readily have used such a carcass for a hive. We do not propose to attempt to clear the story of all difficulties, but will draw some lessons from Samson's very singular adventure.

In those days, among the Hebrews, Romans, and Greeks, honey appears to have been about the only sweet, and was used in place of sugar, then unknown. Honey was then considered among the necessaries of life. It is true that Pliny, Galen, and some other authors, allude to *saccanon* as a white chrystallized gum obtained from an Indian reed, which was sometimes used as a medicine, and was "brought from Rome, in pieces about the size of a nut." The Arabians were first to bring sugar to notice, after they had pushed their victorious arms into the Western regions.

The first writers by whom sugar, as such, is mentioned, says an author, lived in the 12th century, in the time of the crusades. Albert of Aix states that the soldiery, when near Tripoli, in Syria, pulled up the sweet stalks of a reed grown there abundantly in the fields and called *zucra*. Its wholesome juice refreshed them, and was so grateful to their taste that they were incessantly sucking it. This valuable plant was diligently cultivated every year. When ripe for harvest, the natives crushed the reeds in a mortar, pressed out the juice, and preserved it in vessels till it became thick and granulated, and resembled snow or salt in its whiteness.

In the year 1306, when Sanudo compiled his *Mysteries of the Crusaders*, the sugar cane was not yet cultivated in Sicily, though it was then already grown extensively in the Morea, in Cyprus, and Rhodes. A century later it had become so common in the island of Sicily, that the Infante Don Henry, of Portugal, readily obtained there a supply of plants for its introduction in Madeira. From here and from the Canaries it was carried to America, where it has been so extensively cultivated that the European plantations were speedily abandoned, and America now supplies with sugar not only nearly all Europe, but a large portion of Asia also. The sugar cane was first brought to the Western Hemisphere by the Spaniards.

Another writer remarks as follows on the consumption of honey :

The consumption of honey and wax, and consequently the demand for them, was so great among the Romans that the production thereof was an object of the highest importance in rural economy ; and no one was deemed qualified to manage a farm who did not thoroughly understand bee-culture as then practised. This was to be made an essential source of revenue to the proprietor, for the Romans were a practical people, who, according to Columella, looked to an increase of annual income in their pursuits more than to a mere gratification of taste. But the natural supply of honey in Italy was insufficient for the home demand, and large quantities were imported from Africa, Crete, and Sicily, the superior quality of which induced the Italian bee-keepers to send the finest and most aromatic of their own to market under the name of Sicilian and Cretan honey, as we are informed by Varro. That of inferior quality, as we learn from Pliny, they were in the habit of colouring and sweetening by an admixture of other substances, and strengthening by the addition of various kinds of wine. An annual tribute of honey and wax was imposed on conquered provinces and territory, as on Pontus and Corsica, and the hope of obtaining additional

supplies, it is supposed, was among the inducements for their invasions of Germany.

A large amount of honey was required by the religious ceremonies and worships of the people. "Nothing is sweeter than honey," says Varro, "grateful to Gods and men. It is used on the altars." It was particularly prominent among the sacrifices of the peasantry. The numerous rural deities, whose favour and protection they invoked, and to whose service they were attached, claimed a portion not only of the products of their gardens, orchards, and fields, but of their flocks and herds, and of their apiaries. Also at the feasts of the Gods, described by Ovid, which required costly aliments and precious wines, the delicious honey-cake was never wanting. These were composed of meal, honey, and oil, and had to be equal in number to the years attained by the offerer. For the domestic worship also of their household deities—the *Penates*—honey, "the gift of the Gods," was indispensable; and it constituted a large item at the vernal consecration—*ambarvalia*—of their fields in April, as well as at the annual thanksgiving in October, and likewise at the special worship of Ceres in November, who was regarded as the "flock increaser," and the "honey dispenser," and who, by her union with the rain-God Zeus, caused fruitful seasons. Her priestesses were called "bees," because honey was the first food of the infant Dionysus, the son of Bacchus, whom Ceres bore in her arms, as Isis carried Horus ; and she was the instructor of Aristæus in bee-culture. Bacchus, too, demanded a share, as the "discoverer of honey," the "admirer of all sweetness," and the "decorator of the blooming meadows."

Every sacrificial victim offered to the higher Gods was sprinkled with milk, wine, and honey, and large quantities of the latter were required in the solemn celebration of their mysteries, and in the obsequies of the dead. The later Romans poured honey in the grave of the deceased. It was with them a symbol of death. It will hence readily be inferred that their religious ceremonies involved a large consumption of honey, and that this must have induced increased attention to bee-culture. But the quantity used in domestic economy was still greater, as they were unacquainted with the sugar now in common use. What they called *saccharum* was a very different article, obtained from Arabia and India. It was, as we learn from Pliny, used only medicinally. Honey was thus the only sweetening employed by them for meat and drink, and was as indispensable in their households as sugar is now in our families.

In view of the death-dealing adulteration of sweets in our day, is it not our duty to imitate Samson, who, when he had found the God-given pure sweet—honey—sought out his relatives and *took some of it to them to eat*?

Thousands and tens of thousands of children are dying all around us, who, because their ever-developing nature demands sweetness, crave and eagerly demolish the adulterated "candies" and "syrups" of modern times. If these could be fed on honey, instead, they would develop and grow up into healthy men and women.

[The remainder of the article was given under the head of "Honey as an Article of Food" in our last issue.—Ed.]

### FERTILIZATION IN CONFINEMENT.

We are frequently asked, particularly by persons just entering on the "bee-business," for the *modus operandi* of fertilizing queens in confinement. Many methods have been proposed by different experimentors ever since the fact that it could be accomplished was ascertained by Mrs. Tupper about 15 years ago. A vast number of experiments have been made since that time both in this country and in Europe, while, if we may credit the statements of well-known and reliable apiarists, a few have succeeded, by far the larger number have utterly failed. After spending

considerable time and money in apparatus, and losing many valuable young queens, they have quit their experiments in disgust, and pronounced the thing impossible. To give all the reported methods adopted by which to accomplish the desired end, would fill a small volume, as they vary from the simple and sensible to the most complex and foolish, and most of them show a wonderful lack of knowledge of the nature and habits of honey bees, so necessary in experiments of this kind. Among those who have succeeded to any great extent, none have used simpler methods than Prof. Hasbrouck. He takes a new barrel, cuts a round hole about six inches in diameter in the centre of one end, the other end of the barrel being open. A glass is fitted in this hole so as to come even with the inside of the head of the barrel and leave no resting place for the queen or drones. The barrel is set in the sun light, but with a black cloth over the glass so as to render the inside of the barrel perfectly dark. The queen should be three or four days old, and be caught without unduly exciting or touching her with the hand. The drones should be full grown, and at least two weeks old, and should not be touched with the hand. Introduce the wire vessel containing the queen and drones under the barrel at the bottom, and at once remove the black cloth from the glass. The bright light will at once cause the bees to fly to it and in the act of doing so the fertilization is said to take place, which is known by the altered appearance of the queen, and by finding one of the drones mutilated. The professor has succeeded many times and also frequently failed, but is still working away, and we trust in due time he will have the apparatus and also all the conditions of success, so narrowed down that with care any apiarist, not too wise to implicitly follow his directions, will be able to turn this at present imperfectly understood subject to practical account, when it will be given in all its details in the *Bee-Keepers' Magazine*. In the meantime let no costly experiments be made unless you know yourself to be competent to take hold of the matter in a scientific manner, and have money and stock enough to afford to stand some disappointments and loss.—*Bee Keepers' Magazine*.

### DO BEES INJURE FRUIT?

We have long tried to believe that they do not, but the following august authority travelling the rounds of the Press, is conclusive evidence:—

We once told Mr. Frederick Wilhelm Whokendemffeschauerferponsky, a whole-souled Dutchman of our acquaintance, that bees did not injure fruit at all, when he pitched in and said he knew better, and gave the best argument we ever heard, that bees do injure fruit in the following words:

"Vounce a long vile ago, ven I first to dis country goime, I vent into mine able orchard to glime a bear dree to kit some beaches to make mine vrow a blumbudding mit; und ven I kits avay up on de tobberrmost limbs, a hole lot of pees, pees vot goime for honey gitten—dwo, dree five thousand of 'em goime ven I vas on de highermost pranches, und tey schting me all over so pad as never vas, und right pefore mine vace, too, und I not know vere I am, so I vall town from de lowermost limbs vay so high up, mit von leg on both sides of de bicket vance, und like to stove my outsides in. Vat you say, hey! pees no steal de fruit, ven I ketch 'ein at it?"

We do not like to gainsay or resist such positive, convincing facts. We think the entire question may now rest without a quibble on this presentation of the case; it is so pure in language, thought and style, that it should be accepted as a model.—*American Bee Journal*.

A LITTLE boy quietly watched a bee crawling on his hand, till it stopped and stung him, when he sobbed: "I didn't mind it's walking about, but when it sat down it hurt awful."

## HONEY MARKETS.

AUCKLAND, August 1st, 1883.

The demand for extracted honey is very good. Up to the present California has supplied the market, but the superiority of the local article has completely closed up the importation. Prices at present are—for 11b. tins, wholesale, 8s 3d to 8s 6d per doz.; retail, 10d to 1s per lb.

AUCKLAND AGRICULTURAL AND MERCANTILE Co., Limited.

### ENGLAND.

English Honey:—Comb, in sections, none on offer.

Extracted in bulk:—Scarce; price, from 10d to 1s.

English Wax:—1s 4d to 1s 8d.

—*British Bee Journal*, May 1st, 1883.

### AMERICA.

NEW YORK, April 27, 1883.

Honey.—Permit us to quote honey and wax as follows:—

Best clover, in 11b sections (no glass), per lb. 22 @ 23

" " 21b (glassed) " 18 @ 20

Fair " 1 and 21b sections " 17 @ 18

Best buckwheat, in 11b sections (no glass), " 16 @ 17

" " 21b (glassed) " 14 @ 15

" white clover extracted in small bbls, " 10 @ 11½

" buckwheat " " " 8 @ 9

Beeswax—We are selling prime yellow at 40 and 42c per lb.

No change in prices on honey since last issue.

H. K. & F. B. THURBER & Co.

—*Gleanings*, June 1st, 1883.

SAN FRANCISCO.

Honey—Stocks and the demand are both light. More or less difficulty would be experienced in filling a large order for a straight lot.

White comb, 14 @ 17c.; dark to good, 16 @ 13c.; extracted, choice to extra white, 8½ @ 9½c.; dark and candied, 5 @ 7½c.

Beeswax—Wholesale, 27 @ 28c.

STEARNS & SMITH, 423, Front-street.

—*American Bee Journal*, May 28th, 1883.

### OUR HONEY IMPORTS.

The value of honey imported into the United Kingdom for the month of March, 1883, was £1535.

[From a private return sent by the Principal of the Statistical Office to E. H. Bellairs, Esq., Hon. Sec. Hants B.K.A.]—*British Bee Journal*, May 1st, 1883.

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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.

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