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The New Zealand Beekeepers' Journal

The Official Organ of the National Beekeepers' Association of N.Z.

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National Beekeepers' Association of New Zealand.

The object of the Association is the improvement of the Beekeeping Industry and furthering the interests and prosperity of the Beekeepers throughout the Dominion. Membership is extended to any Beekeeper who is in accord with the aims and objects of the Association, on payment of a small fee.

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EDITORIAL.

We have great pleasure in submitting this "Special Spring Number," containing as it does articles written by experienced beekeepers on the great problem at this time of the year—Swarming and Its Prevention—and we feel sure that our readers will appreciate it. By the courtesy of Mr. Kirk, of the Department of Agriculture, we are able to give one written by Mr. A. B. Trythall, the officer in charge of the Experimental Apiary at Ruakura, and we tender our thanks for the help thus given.

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We congratulate our Wairarapa friends on forming a branch of the National Association in that district, which, according to the report sent in, promises to be one of the largest. We will publish the full report next month.

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We have received from the Department the information that the Bluff is now a grading port, and congratulate our southern friends on getting their wishes carried out.

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For the last four months we have drawn attention to the fact that if the wrapper of the Journal was written in red ink

it indicated that the receiver was behind with his subscription. This has had the desired effect with many absent-minded beggars, but this gentle hint has been lost on others. It is necessary, therefore, for those who receive the October issue addressed in red ink to understand that unless their subscriptions are received by the 20th of the month their names will be struck off the list.

* * * *

At the time of the Beekeepers' Conference vague rumours were about that the grading at one of the principal ports was very unsatisfactory, honey which was of very good quality being placed in C grade, only missing D grade by one or two points. The beekeepers as a body were very dissatisfied with the treatment they were getting at the hands of the grader, and asked for and obtained a re-grading, which resulted in the honey being placed in the higher grade. The H.P.A. thereupon requested a re-grading of all the consignments, and the Department acceded to the request, and sent all the graders to the port in question, and the direct result meant an immediate cash return to the beekeepers concerned running into three figures. One supplier railed his honey to another port where a different grader worked because of the treatment the beekeepers were getting at the port in question. The matter is one of such financial importance to the beekeepers who send to this particular port, that it is the duty of the National Executive and the directors of the H.P.A. to take such steps as will prevent a recurrence of the trouble.

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We have been asked to state that any visitor to the Field Day held at Ruakura last February who paid for a photo, and did not receive one to apply to the Manager of the Farm.

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We hope our readers noticed that the September issue, in addition to being illustrated, was enlarged to twenty pages, and we hope to be able to continue in the same way. This, of course, means extra expense, and we trust our readers will do their utmost to secure new subscribers. We still have a few copies of the Townsend Bee Book to offer as a premium.

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We desire to thank all those who have sent in articles for publication, and would ask them to be patient with the Editor if they do not appear the same month as sent. We had eight pages crowded out last month in spite of increasing the size of the Journal.

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The Editor would be very grateful for any copies of the September issue that could be spared. The issue was exhausted, and new subscribers are asking for that number. Please help!

Mr. A. J. D'Arcy, queen breeder of Palmerston North, has been compelled through ill-health to give up for a while, and does not anticipate being able to supply any queens this season.

Kindly excuse this question: Was your wrapper addressed in red ink?

Swarming and Its Control.

PREVENTION OF SWARMING.

Perhaps on no single subject connected with beekeeping has so much been written as upon this one. I am afraid, however, that prohibition in this case will not be carried; even a three-fifths majority is no good. Messrs. Gibb (Edendale) and Jacobsen (Little River) claim to be within four or five per cent. of it. Perhaps! Probably like the whisky business, there is a little sly selling occasionally! Mr. Gibb himself bears excellent testimony to what has sometimes happened in a prohibited apiary when he describes Mr. Lenz's willows; and—well, mostly there are some trees about every apiary that are subject to the same trouble.

Do we want to totally prohibit swarming? Yes, I think so, but only if the cost is not too great. If it means hunting up queen cells once a week, or any other laborious system of handling, then I'm off it; I've got neither the time nor the back to do it. Mr. Jacobsen works them with a switch. He yanks the thing over, and gives the bees a change of residence for a week; then he yanks it back again, and they try the old home for another spell. The whole thing is Yankee, and if the Yanks made much of it—well, they are very quiet about it now, judging from their periodicals. Mr. Gibb pulls the hive over on its back until an assistant can examine by looking up the bottom of the combs. If no cells appear, then it is put back again—all's well! Should, however, cells be visible, then the back-breaking process of getting at them must be gone through. I am well aware that beekeepers of good standing, men right at the top of our calling, believe in and practise these methods, and do it successfully. My objection is purely personal. It is either laziness or backache, or both combined. I don't know which.

Messrs. Gibb and Jacobsen have, however, another system, and here I join hands with them. It would be no use to you, Mr. Editor; it requires excluders, so you must just keep your 20 ft. ladder in good repair. This system has been described several times lately, and was clearly stated at the Conference. It goes on the assumption that half a loaf is better than no bread. It is, however, equivalent to 6 o'clock closing, and in these days we must just take the best we can get. I shall describe it in my own way; probably both of the gentlemen mentioned above would differ from me in some minor details. All the combs to which the queen has access should be built from full sheets of foundation. A large production of drones is both a tax on the colony and is directly conducive to swarming. In the spring, when the colony is covering well all the frames in the single storey brood nest, give them a second storey of good worker combs, using no excluder, and raising two combs of brood and placing them in the centre of the top storey. Close in the brood below, and put the spare empties to the outside. The effect of this operation will be to give ample room, and gradually the centre of operations in the hive will go into the top storey, so that it soon becomes much the

heaviest, and contains brood right across, whilst the hatching going on in the lower storey leaves it with combs comparatively empty. The second operation comes when the top storey is getting well filled (dates cannot be given, as locality and season alter so much that they would mislead). Take off the cover and drive the bees down, then take out an outside comb to give room. Take each comb in turn, and give it a sharp shake just above the lower storey, getting over the combs quickly, and in nine cases out of ten you put the queen down, which is the object in view. Remove the top storey altogether, then put on an excluder, and above it a storey of empty extracting combs, then as a third storey the brood just removed. What we have now is a three-storey colony. The queen is confined to the bottom one, and has lots of room. The centre one has empty combs, and the top has the major portion of the brood that is in the hive. The effect of this change is rather startling. It is equivalent to making it into two colonies. The bees in the top will immediately start queen cells, and these must be cut out about a week later. When this is done the bees will centre in the lower storey. If the season is a good one, and it is thought necessary, this operation can be repeated. Or if some increase is wanted the top storey from either two or three colonies so treated can be placed one on top of the other on a new stand. The field bees will go back, but the young bees will soon make a fine colony. This raising of the brood is the main feature of the Alexander method of swarming. That method, however, was faulty in this, that often until the brood was sealed in the top, the queen was neglected below, hence a stoppage in laying for most of a week. The placing in the centre of a storey of empty combs obviates this, makes a complete break, and the queen below gets immediate attention, even though the bulk of the bees are still in the top storey. I think the main point in this system is that the placing of the brood on top takes the crowd or crush of the bees there also, and leaves the queen for a time with a very much reduced number of bees around her.

JAMES ALLAN.

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SWARMING.

ITS CAUSE AND ITS PREVENTION.

(By A. B. TRYTHALL, Officer in charge Ruakura Experimental Apiary.)

Dr. Miller, in his book entitled "Forty Years Among the Bees," says:—"If I were to meet a man perfect in the entire science and art of bee-keeping, and were allowed from him an answer to just one question, I would ask for the best and easiest way to prevent swarming, for one who is anxious to secure the largest crop of comb honey."

If Dr. Miller speaks like this there is sufficient excuse for my anxiety in approaching the subject. Bees, being only semi-domesticated, we can never implicitly rely on them to do the same thing under the same circumstances. This is particularly true with regard to the swarming impulse.

The causes of swarming are generally conceded to be:—

1. Natural and hereditary impulse.
2. Heat and lack of ventilation.
3. Overcrowding of space for brood-rearing and storage of honey.
4. Age of the queen.
5. Excessive proportion of young bees in comparison to eggs and young larvæ.

Commenting on these in the order named:—

1. Although swarming is the natural impulse for increase, yet many hives, often the best and strongest in our apiaries, go through the entire season without showing the least tendency to swarm. Now, if we could only find out an unfailing reason for this, our problem of prevention would soon be solved; but so far our success has only been partial.

With regard to the hereditary trait, we know from experience that Carniolan bees, for instance, will swarm themselves weak; that blacks will often do their best in the same direction; and that Italians, though generally admitted to be a great improvement in this respect, still land us a long way from our goal. But, apart from the race of bees, it is generally conceded that individual strains show the swarming impulse less than others.

2. With regard to heat and lack of ventilation, the apiarist and not the bees is to blame.

3. Concerning overcrowding of space, we know that when a successful business man's house becomes too small for his needs he is apt to turn it over to his son and build a more suitable one for himself; so why be surprised if the bees do the same?

4. The older the queen the more liable she is to lead off a swarm.

5. Beekeepers are fairly agreed that if newly hatched bees, having strong nursing instincts, find their recently evacuated cells largely clogged with honey and pollen, resulting in less accommodation for eggs and larvæ, the swarming impulse is almost bound to develop immediately.

The cure of swarming, therefore, will be in the prevention of or the reduction of the above causes by the following methods:—

1. The selection (as near as possible) of non-swarming breeds and strains.
2. Provision for sufficient ventilation.
3. Ample space for the needs of brood and stores.
4. The early rearing and introduction of young queens.
5. A judicious use of foundation in the centre of brood-nest.

Taking these also in order:—

1. I need waste little time in discussing breed, other than by saying that the great majority of beekeepers favour the

Italian as the best bee for the New Zealand climate, and particularly so respecting its moderation with regard to swarming.

In the poultry world strain often stands for even more than breed, and the sooner beekeepers breed only from those hives that have proved non-swarmers in the past, the sooner we may expect to arrive at non-swarming strains of bees on similar lines to the non-sitting strains of fowls.

2. Ventilation should be provided in advance of the colony's requirements by increasing the size of the hive entrance, and even to the raising of the front of the hive above the bottom board by means of small blocks of wood at the two front corners, or perhaps even by giving top entrances in addition to very populous colonies with several supers.

3. Space for the storage of honey must also be provided well in advance of requirements, otherwise the nectar will be placed in the brood cells to the exclusion of eggs and larvæ, which will lead to swarming perhaps more than any other cause.

4. It is the exception for a queen of the present season's rearing to swarm; therefore, the earlier our stocks can be requeened the less trouble we shall have with swarms. The poultryman pins his faith to pullets rather than to hens, and the sooner the apiarist follows his lead the better, particularly with regard to the question at issue.

5. Two or three frames of comb foundation placed in the centre of the brood-nest occasionally, where bees are very numerous, not only provides an outlet for the bees' comb-building proclivities, but it also gives the bees the impression of plenty of room and occupation for all. The busier the bee the less tendency to swarm, as instance the fact how general it is for swarming to slow down immediately a heavy honey flow comes on. "Satan finds some mischief still for idle hands to do" is evidently true in other cases besides little boys.

After taking the above broad principles into consideration, every beekeeper has to adapt his methods to suit himself and his surroundings.

Speaking generally, in New Zealand, and especially the North Island, we are fortunate in having a long spring, with the result that bees are enabled to work up to full strength early, and what swarming is done, is largely over before the main white clover flow of nectar begins; whereas in England and large portions of America the beekeeper is handicapped by swarming cutting into the middle of his main honey flow.

Most methods of combating the swarming impulse are based on manipulations of the brood chamber. Mr. Gibb's plan (including the use of queen excluders) and Mr. Hobbs' plan (without the use of excluders) have both been expounded at length in previous issues of the Beekeepers' Journal.

A plan that I and others have used with success is to periodically—say, every week or ten days in spring or early summer—cursorily examine all hives for signs of swarming. Those hives very strong in bees and brood or any that show

signs of queen-cells are treated at once by removing all frames of brood except two from the bottom chamber. Empty combs or sheets of foundation are put in their places, the queen being left with the said two combs of brood. An excluder is now placed on top, over which the supers, if any, are placed, and on top of all place the other brood frames from below, destroying at the same time any queen cells that may be in existence. In eight days' time again examine these top frames, and remove any queen cells that may have again been built. Providing the broad principles previously enumerated have been complied with, these hives are unlikely to require any further treatment for swarm prevention except in isolated cases, or I am inclined to further add in abnormal swarming seasons. Should, however, later swarming preparations be noticed from a cursory examination of the bottoms of the combs in the brood-nest, by tilting the hives back on their stands and the help of a few puffs of smoke, the same process can be gone through again, though, to my mind, a better way to treat such second symptoms of swarming would be to introduce at once a good young queen. Some beekeepers vary the proceedings by raising two combs of brood every eight days above excluder, and replacing them in the centre of brood-nest by two frames of foundation, and keeping up this process until the main honey flow is in full swing, when usually the bees, in this district at least, get too busy to trouble about swarming.

Another method followed by those who object to queen excluders is to scatter the brood frames through the supers, while still others adopt the shake swarm principle, removing all the brood and giving it to weaker hives, who, in their turn if necessary, are treated in the same way later.

I am strongly of the opinion, however, that the best and easiest way of controlling swarming is by using the "Hand" floor board and method of procedure. This was by far the best of our experiments at Ruakura last season ,and we are hoping to run a number of hives on this principle during the coming season, so as to give it an extensive trial alongside hives run on other systems.

It will be noticed that all these methods aim at forcing the queen to build up a practically more or less new brood nest by giving ample room for the laying of eggs, and hence continually staving off the feeling of overcrowding or lack of accommodation.

In spite, however, of all precautions "the best laid schemes o' mice and men gang aft a-gley" occasionally, and he is a clever beekeeper (or has an exceptionally contented lot of bees) who never has a swarm.

When queen breeding by selection has arrived at such perfection that swarming trouble is no longer known, the apiarist's millenium will have dawned. Personally, I should like to see that day.

SWARMING.

Readers will note that I have not headed this article "How to Control Swarming," for I myself am still asking the question. During the past four seasons anyone who has had a method of swarm control in this district has doubtless had considerable success by following it, for they have not been swarming for years. As I have always had it in my mind that with the elimination of disease and the elimination of swarming the work in the apiary would be reduced by half, I have given much effort towards reaching this consummation so devoutly to be wished, and I have come to the conclusion that with a climate so varied as ours, and with conditions so different in different districts, it becomes a problem for each beekeeper to solve for himself. There is no doubt but that two conditions of the colony are responsible, finally responsible, for the bees swarming, finally because swarming is in the first place the means of increase, and the increase of all species has strong impelling forces. But swarming is only the secondary exhibition of those forces, and seems to be brought on automatically by the overcrowding of the hive with young bees, for which there is not sufficient work in the colony to keep them employed. It might be suggested that, failing other employment and being by instinct impossible idlers, they take to rearing queen cells. The worst year for swarming I ever experienced was a very wet one, when the rainy days were broken by bright hot sunshine. The bees could bring in just sufficient honey, breeding went on uninterruptedly, and the hives became very crowded, so that every burst of sunshine brought forth swarms in numbers before the colonies could be examined. My conclusions then are that swarming is finally brought about by a surplus of young bees in the hive and by superseding; and this last is perhaps not the least of the causes, and is the one that renders some of the advocated systems of control without result. It is then necessary, before any system of control can succeed, to have faultless queens in the hives, and, as in all large apiaries, however carefully re-queening may be carried out, some queens will fail, occasional swarms will occur from this cause. Where no re-queening is done, swarms must result if colonies are kept strong, and where cutting out cells is followed colonies will become queenless.

Of the methods of control where the queens are as satisfactory as possible, I have found the Fowlds-Alexander method the best. This method consists, shortly, in putting the queen on a frame with some brood in it and the adhering bees in a brood chamber with empty combs, putting an excluder on, then one or two (preferably two) empty supers, then the brood on top, and removing the cells in due course. So far, however, I have not had confidence enough in any method to get away from an inspection every week or ten days. The Jacobsen method, which I tried for two seasons, did not prove quite a success with me. In shaking the queen down into the lower chamber, it often happened that the lower chamber was as full of brood as the upper one. Where the honey flow comes on strong and suddenly the Jacobsen method

seems to give good results, but where it is led up to gradually, I did not find it so. However, it is such varying conditions as these that make it necessary for every beekeeper to vary any treatment to meet them. And it could only be after a few years' trial that any method could be pronounced as successful.

J. RENTOUL.

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SWARMING: ITS CAUSE AND PREVENTION.

(By J. C. HOBBS.)

Bees swarm in obedience to the command of the Creator to "be fruitful and multiply." There are, however, certain conditions that hasten or even aggravate swarming that are well worth while studying with the view of making beekeeping profitable or meeting the ends the apiarist has in view.

At an apiary that usually is least inclined to swarm and generally there are no preparations for swarming till about Christmas, I was greatly taken back by finding that one of my best Italian queens had gone off with a swarm as early as the end of September, three months ahead of the usual time. This occurrence set me to studying the conditions that brought it about. The hive was full of bees, honey, and brood, four storeys high. But why should it swarm when there was no honey to be gathered for miles around? That was the thing that puzzled me. I remembered that this apiary on most years was very short of pollen in the spring, but in the past summer the bees had stored an unusually large amount of pollen. This, with plenty of honey, enabled them to breed up very strongly early in the spring. But why did they swarm when there was no honey to be gathered for miles around? After thinking it over for months it occurred to me that as there was plenty of honey on the hill country miles away in willows, fruit trees, etc., that the bees smelt it, and so decided to swarm and go over to where this honey was.

There being a number of fine queen-cells and plenty of bees and honey, I broke up the colony into nucleus hives.

I believe that very large apiaries aggravate swarming early in the season, as there is not much honey for so great a number of bees. The remedy for this is to divide them into smaller ones, and not to have the apiaries too close together. Large apiaries should be four to six miles apart, and small ones two to three miles. Failing queens are a great cause of swarming in the spring. A failing queen can be detected well ahead by noticing the number of embryo cells started. Some failing queens with hybrid bees will have a very large number of embryo cells on the way early in the season. When queen-rearing time comes I kill such queens, take away their brood, and rear a batch of cells by giving combs of brood with many eggs in them from any Italian hive, and thus secure young Italian queens.

An overcrowded condition is a great cause of swarming. To avoid this, give plenty of super room. Bees should never be allowed to cap their honey to any extent before extra supers are added. If a colony gets ahead of me and seals all the honey, I take some of it away and give to nuclei that are being built up into full colonies. An extra comb or two of honey will not make them loaf or swarm, but will give them confidence to go ahead, and will save them from starving should a honey dearth set in through bad weather.

I have in mind a strong three-storey hive that was found by me nearly full of brood, bees and honey, and with a number of cells well on the way, it would have swarmed in a day or two. It was immediately pulled down, all queen-cells destroyed, one or two combs of sealed brood were taken away, and in their place empty combs or frames of foundation were substituted; a fourth storey was added, with some partly filled combs of honey in the centre, as described in a previous article, and the entrance much enlarged. The colony was left for about ten days, when it was found that the bees had given up the idea of swarming, and were bending all their energies to honey-gathering. Hundreds of colonies are treated in a similar manner by me every year, and swarming is almost entirely stopped thereby. At times it happens that just as the main honey flow starts, nearly every colony will start queen-cells. The best thing to do then is to go through them with the extractor. Combs with mostly sealed brood and eggs can be extracted, while those with nearly all unsealed brood had better not be put in the extractor. This will usually divert them from swarming and cause them to give their whole attention to honey-gathering, which is just the thing we want.

Clipping queens delays swarming, but in no way prevents it. I do not clip queens, as they are nearly always superseded if I do.

Locality has a most important bearing on swarming; thus it is necessary to study its relation to it. With me colonies in the shade swarm just as freely as those out in the sunshine all the time, but those in the sun should have plenty of storing room and an abundant entrance. We have found that, taking one thing with another, it is better for bees to be out in the sunshine, as it drives away the damp, which is one of the greatest enemies to bees, combs, and hives.

Bees have two great proclivities—swarming and honey-gathering. If we make it more convenient to store honey than to swarm, and the bees are of a honey-gathering strain, we will get our reward.

Kauwhata, Palmerston North.

If your Journal came addressed in red ink, it indicates your subscription is due for the previous year—perhaps longer.

Beekeeping for Beginners.

MONTHLY INSTRUCTIONS.—OCTOBER.

[As these Instructions conform to the seasons in the Auckland Districts, an allowance must be made for difference in latitude North and South. Average bee-seasons in the extreme North are four weeks earlier, and in Southland three weeks later.—Ed.]

THE FOOD SUPPLY.

I have to refer to this subject again, because we may always reckon upon a dearth of nectar, more or less, between fruit blossom and clover, especially when the weather proves boisterous, as it frequently does at this time. Follow the "Instructions" given last month on this matter.

CLOVER BLOSSOMS.

Our reputation for producing some of the highest grade of honey that reaches the markets in Britain and locally depends chiefly upon that gathered from white clover blossoms. The climate, soil, and especially the rainfall in New Zealand are conducive to a luxuriant growth of clover, and as a rule we get the best crops after an excess of moisture in early spring, followed by a fairly high temperature in November and December, with occasional soaking showers. Considering the amount of rain we have had lately, we ought to have an abundant crop of clover blossoms and plenty of clover honey up this way, providing the temperature is suitable.

White clover may be in blossom a long time before the secretion of honey commences, as it requires a fairly high day and night temperature to start it—a day temperature of about 75 deg. Fahr., and not below 65 deg. at night. In the Auckland districts the first blossoms in an average season are seen at the latter end of September, but it may be from six to eight weeks or longer before the bees begin to work on them.

NATURAL SWARMING.

This is the month when, as a rule, the swarming season commences; it depends, of course, upon the weather and condition of the colonies at what time in the month when swarms will issue. The appearance of drones flying from a hive at mid-day is an indication of the approach of the first swarm issuing. Beginners during their first two seasons or so usually trust to natural swarming to increase stock. It is not a good plan, as the risk of losing the swarms is too great. Older hands adopt what is termed "artificial swarming," or dividing, to make increase, as one then has complete control, and can regulate matters according to the increase required.

DELAYED SWARMING.

Where natural swarming is to be depended upon, it is a good plan to delay swarming for a while. Early swarms are not always desirable, as the weather in the early season is apt to be very changeable, and should a spell of bad weather

come on directly after a swarm has been hived and continue for a day or two, the bees may starve before they can gather food. By delaying swarming until more settled weather is assured, we get larger swarms, with practically no risk concerning the food supply.

When the lower hive is about three parts full of bees, and breeding is in full swing, put on a top box, taking care not to give this extra space while the weather is cold and stormy. Place a couple of the side frames with adhering bees in the centre of top box, replacing them with other combs or frames of foundation. Cover the hive down snug with three close-fitting mats over the frames. If this is done before the bees make preparations for swarming by building queen-cells, it will be delayed for at least three or four weeks, or perhaps longer, and so long as after-swarming is not allowed, the mother colony will quickly recover, and there will be two rousing colonies for the main honey flow.

ARTIFICIAL INCREASE.

I would advise beginners to study the methods usually followed for controlling increase as soon as they can. There are several modifications of the one plan all leading to the same end, but to get the best out of them queen-rearing should be carried out at the same time. For beginners and others further advanced, I think the "Alexander" plan is an excellent one. (I may have something to say on this next month.)

BEE MANUALS AND NOTE-BOOK.

A good standard work on bee culture is absolutely necessary for reference when in quest of information or when in doubt; in fact, a beginner is all the better for having two or three by different authors at hand. An apiary note-book for keeping records of each colony is indispensable; in fact, without such records an apiary cannot be conducted to the best advantage.

BEES.

Extract from letter received:—"Foul-brood is very prevalent all over this district, and the registration of apiaries was badly wanted; and, even more important, frequent visits from inspectors. So far, I believe our district has only had two visits in five years, and owing to the scattered nature only one or two beekeepers received any benefit." [This comes from a district in Southland (Waianawa), consequently is in Mr. Earp's Province. We are exceedingly sorry for this, as we always imagined that gentleman to be the very pattern of what a live inspector ought to be, and here is a statement that he has paid one district only two visits in five years, and that one harbouring a lot of foul-brood. Mr. Earp, your reputation is dimmed (dimmed, I said, sir!), and, believing you are rather jealous of its lustre, we shall expect to hear very shortly that you have moved round "some," to the improvement of both your reputation and the district concerned.—Ed.]

Comments on Passing Bee Events.

By CRITIC.

[These Comments, be it understood, are not to be accepted in the light that "Critic" thinks he knows everything about bees, because he knows he does not, and never can. They are simply intended to help in some small way the development of our industry.]

Page 654—"**Registration of Apiaries.**"—At last this regulation is an accomplished fact, and no doubt will be helpful to our inspectors and save their time considerably; but will the present form of registration accomplish all the good it might have done had full advantage been taken of the occasion? I answer decidedly, No! It seems to me like the fabled mountain that after long travail brought forth a mouse. There was the opportunity to have ascertained annually the forward progress of our industry or otherwise. Why not have adopted annual registration, as everyone believed would be the case, and have inserted in the Application for Registration—

Quantity of honey produced previous season.....lbs.

Quantity of beeswax produced previous season.....lbs.

Are all your bees in frame hives?.....

Was it owing to the expense? It could hardly be that, because I remember at the 1914 Conference the representative delegates suggested taxation to cover expenses. As it is, registration is triennial, and then we do not get the desired information to show our position as compared with former years—an urgent matter in a young industry—so that in this respect we are no better off than we were before. We shall still have to depend upon the Census Enumeration Papers (once in every five years) for the knowledge we could have gained annually had full advantage been taken of the occasion. To show how little value this quinquennial record is ,and how misleading it may be, we will suppose that the season of 1917 is a good one, and the crop above the average, the Census papers showing 1,500 tons. Five years after, in 1922, when the next Census is taken it is an extra poor year, and only shows half a crop, or, say, 1,000 tons honey as the output, although we might know better, the figures would indicate that the industry was falling off. By annual records we could ascertain very accurately how we were progressing by taking the average of a series of, say, four or five years. New South Wales adopted annual registration, and the beekeepers agreed to a tax of 1d. per hive. Our Orchard Act provides for annual registration and record of crops among commercial orchardists. Then why not in beekeeping? Alas!—Kismet.

Page 657—**Queen Deserting the Brood Chamber.**—I am asked for an opinion on this, and a suggested "ideal brood-nest." I must presume in the first place that the combs in the brood chamber were pretty fully occupied by brood before the queen was given the run of the second box. In which case I would certainly expect her to take charge of the top box, and to remain there so long as she found suitable combs to breed

in. The bees might even remove any honey there might be in the combs to prepare them for the queen's use. The remedy in such a case seems to me to be simple enough—transfer the upper box in which the queen is breeding below, and so make it the brood chamber, and put the original chamber in its place. I do not approve of your suggested "ideal brood nest," as the brood combs of upper and lower sections of the nest would not be interchangeable.

Page 660—**Swarm Cells.**—Much was written some time ago by those who could not have given the matter much thought that queens from cells built on the swarming impulse should be rigorously discarded, for the reason that the desire to swarm would be accentuated in their progeny. Experience has convinced me that provided the mother colony has swarmed under natural conditions, and the queen of the swarm is a desirable one, we get the very best of cells and queens from them. Why should we not? No one in their senses would attempt to make use of cells from an indifferent colony.

Page 661—**Cheap Queens.**—Mr. Barrett says:—"Someone said at the Conference that it was possible to rear queens for one shilling or two shillings and sixpence." Further on in his letter Mr. Barrett gives it as his opinion that queens could be raised for sale at a minimum price of 3/6. Surely the person who suggested 1/- or 2/6 did not understand the subject or he would never have made such a statement. It is not stated whether he referred to tested, untested, or virgin queens at those prices, or whether he meant it as a commercial proposition. In any case, even if he were raising queens for himself, he could not possibly raise them from a good strain of bees in a conscientious manner at anything like that price. I notice he has given himself a margin to come and go upon of 150 per cent.

Mr. Barrett's minimum of 3/6 for untested queens as a selling price is I consider below what it should be. Cheap queens in the past have been the curse of beekeeping. Out of the many thousands of queen breeders that have cropped up in America from time to time, only a few of the reliable ones still remain, and their prices range from one to two dollars for untested, four dollars for tested, and 15 dollars for select breeder queens (4/2 to the dollar) (Root's last catalogue to hand). There are queen breeders and queen breeders, but only the reliable ones last any time, and they demand and get a fair price for their skill and their reliability.

Page 670—**Honey above Excluders.**—Why is it needful, or what would be the advantage of guaranteeing that honey was raised above excluders? Does R.B. suppose, as hinted in his letter, that without the use of excluders one cannot secure a crop of honey clear of grubs? If so, I think he is labouring under a big mistake. I have raised large quantities of honey without excluders, and never once found it necessary to extract from combs containing brood. Such combs can be distributed from time to time within the hive so as to eventually secure them clear of brood and the space stored with honey.

Page 671-2.—Mr. McLay points out a difficulty at present existing in the matter of members of the H.P.A., who are sup-

posed to deal through the Association, supplying their local markets with honey. There are bound to be initial difficulties in all new undertakings, which only time and intelligent management can solve. In this case the solution appears to be to establish depots in all the chief beekeeping centres, but this means capital, and in the meantime I think the Association is wise in going slow until it is certain of success in its different movements.

District Reports.

WAIRARAPA.
(H. BENTON.)

In view of the limited amount of space available in our Journal, the writer suggests that articles of a voluminous nature be printed in the form of a supplement.

Corporal L. C. Benton, writing from Capetown, states that honey is being retailed out there at 2/6 per lb.

The larger beemen in the district are getting in an ample supply of good quality petrol tins for next season's honey crop.

Brood-rearing is going forward rapidly. Yesterday (4th September) I noticed a small patch of drone brood. Colonies have had the benefit of a very fine week to work a flow from weeping willows, which commenced 29th August.

* * * *

"CANTERBURY TALES."
By E. G. WARD.

The compositor who sets up the type for the Journal is not a beekeeper, or he would never have made such a hash of my poetical effusion as he has done. I don't often attempt to make a joke, and here he has been and spoiled my first attempt in the Journal. Perhaps members of the craft will "catch on" if I try again.

"How doth the little busy bee
Fly out with keen delight
To seek propolis every day,
Then **bungs** things up at night."

I suppose all those who did me the honour of reading last month's "Tales" wondered what I was driving at. Hope this will clear my reputation.

I had planned to visit my apiary, also Mr. Gidley's, which I have charge of while he is on active service, before these "Tales" were written, but rain set in on the morning I intended to leave, and my visit is postponed for a week. Rain has been general in Canterbury on 10th and 11th September. In some districts the fall has totalled over eight inches, and considerable damage has been done. Young lambs have suffered, but on the whole probably more good than harm has

resulted. Some warm weather now will do wonders, and our prospects for a crop even more favourable than a month ago. I am told bees are in fine condition in Kaiapoi district. I had hoped to report condition of my own in Southbridge district, but cannot do so till next month.

No doubt all commercial beekeepers are pleased to know that the registration of apiaries is now the law of the land. I have not seen the regulations, and would like to know if annual registration is provided for. Either annual registration should be provided for, or a clause included making it compulsory to notify the Department of any removal.

I read the article on the Latham method of queen-rearing with much interest. When I first read the article in "Gleanings," by Allan Latham, I was so favourably impressed that I intended trying it this season. Barring accidents, I am going to carry out my intention, and will report results. I have used the Doolittle plan up till the present, with considerable success.

The appeal for instruction by the returned soldier, A. R. Jones, will meet with a ready response, I am sure. It will be remembered that a resolution was passed at last Conference providing for just such a possibility. The National Beekeepers' Association is pledged to give all the help its members can to any returned soldier.

I see an effort is to be made to establish a branch of the National in the Wairarapa. This is a line of action I have advocated on several occasions at Conferences. I have said, and I still think, that the more Branch Associations there are the stronger the main body will become. Some of the leading lights hold that one Association is sufficient, and that Branches are a hindrance. I differ.

At the quarterly meeting of the Canterbury Branch of the National, held on 1st September, the subject of honey for the soldiers was brought up and discussed. It was decided to make an appeal to all members to reserve a portion of their crop for this purpose. No special plans have yet been made as to how the matter will be carried out, but the Executive have the matter in hand, and will have their plans made in readiness for the next meeting, to be held early in December. I draw attention to the subject here so that anyone who is willing to help will have plenty of time to make up their minds how much to reserve.

I think it was two years ago that the Executive of the National was instructed to prepare a comprehensive exhibit suitable for exhibition at the large Agricultural Shows. How would it do to get the matter under way this season, and see if we cannot collectively produce something worthy of the industry? We want to popularise the use of honey, and a really good display would work wonders in this direction. We need a good organiser, who knows what he wants for the purpose, and I feel sure he would then only need to state his requirements and the members would respond. Who will help? I will, for one.

The Editor has hit Canterbury pretty hard over that Red Cross appeal for honey, and I should just like to draw attention to a few things he has overlooked. First of all, although this particular appeal has failed to produce the response it might have done, other appeals by which the Red Cross funds have been augmented have fared differently. I know many of these appeals have been responded to liberally by both money and honey. Then, again, although Canterbury produces 100 tons in a normal season, everybody knows that there have been three years of drought, and I venture to think that 100 tons of honey have not been harvested in Canterbury while the war has been in progress. A good many people object to the publication of their names in matters of this kind, and I know a number who have made donations of various kinds who are in this class.

An appeal by Mrs. Boyle was read at a meeting of the Canterbury Branch of the National on 23rd June, but as practically all the honey of those present had been disposed of, it was impossible to respond, and the Secretary was instructed to reply explaining the situation. It will be noted in a previous paragraph that an attempt will be made next season to make amends, and I feel sure the response will be liberal. The Journal had not appeared when the resolution was passed, so that the Editor's comments have not had anything to do with the decision.

In conclusion, I think that old classical quotation will be appropriate here—"You canna get the breeks off a Hielanman!"

* * * *

BAY OF PLENTY.

(R. B.)

Rain! rain! and then some more rain has been the order of things here since January last, with the exception of a few fine days occasionally.

The bees are now working on wattle, willow and tagasaste (tree lucerne) during any hour of sunshine that happens to come along.

Considerable enquiry regarding the large number of vacant apiary sites along the 100 miles of dairying land lying in the Tauranga, Whakatane, and Opotiki Counties has been made by prospective beekeepers, but so far this season none of them have been able to sum up enough energy to make the change. When a beekeeper once takes root in a locality, it takes a good deal to get him to move on again, even when the ground becomes over-stocked and the yields small. In the Bay of Plenty there are thousands of dairy cows grazing on white clover fields, with no apiary within dozens of miles, although there are fine motor roads in all directions, and there is no better place for raising prime honey than clover lands grazed by cattle.

The prospects of the coming season are good, and the clover never looked better. This is caused by the almost entire absence of frost and plenty mild rains during the past year.

Honey has been selling locally at 30/- per 56-lb. tin, and 15/- per dozen 2-lb. pots for any grading light amber and upwards.

Other farm produce: The dairy factories have paid out during the past season 1/7 to 1/8½ per lb. for butter-fat; fat four-year-old bullocks fetched £17 to £20; chaff, £9 per ton; maize, 4/3 per bushel.—14/9/17.

A VOYAGE OF DISCOVERY.

(With apologies to Mr. H. B. Bartlett-Miller.)

One fine summer's day, up Waikato way,
Along a bye-road, not near an abode,
A pedestrian went, face very intent,
With a hive on a barrow, which before him he sent.

So I said, "Sir, I pray, kindly tell me to-day
What's the reason that you are so different from gay?
What's the hive on the barrow, so light and so narrow?
Pray, tell me, kind sir, I'm not quite 'Au fait.'"

The barrow put down, my friend with a frown,
Remarked with a sigh, "It's a long way from town;
And I've pushed that there hive since a.m. half-past five,
And I wish this was somewhere just close to a 'dive.'"

"Yes, yes," I remarked, "'tis remarkably hot,
And I quite understand you incline to a spot
Where refreshment would come without very much wooing,
But please kindly tell me just what you are doing."

His face it beamed, and to me it seemed
He appeared like a man who had beautifully dreamed,
As he said, "I'm on tour, a collaborateur,
In hopes that mis-matings will be very much fewer.

"This barrow I wield about bush, road and field,
My feet got quite sore, but now they are healed;
In fact, I'm just settling down to austerity,
In hopes that my fame will go down to posterity."

"Excuse me," said I, as I happened to spy
On the front of the hive "Nil Admarari."
(The sun being high so the shade we both sat in),
"Please tell me the reason of those mottoes in Latin."

"I'm surprised, sir," he said, "that you haven't yet read
Of the wonderful happenings that now can be said
To be going on when perhaps you are in bed;
So 'To wonder at nothing' is a fitting and proper
Remark for an enterprise such as this is.
Because you must work on a possible thesis.

"Now, you see," he went on, "when you come to the sting
Of a bee, which you know is a very small thing,
And when you get punctured it seems of great strength,
But we want to determine its accurate length.

"This object so worthy is put down to me
To see what there is in heredity,
And so while I employ myself wheelbarrow pushing,
I'm gradually becoming an 'Apis Pincushion.'"

"This talk, sir," I said, "appears to be head
Above anything yet I've heard, seen, or read,
And I'm bound to admit that I'm proud to have met you
To learn of the duties your chief has so set you.

"But one moment more, sir; it seems very odd
That you put 'Cave Canem,' 'Beware of the dog';
I confess to you, sir, I'm in rather a fog
The connection to find between genus Canine
And Apis Mellifica insect divine.

"I've thought it all ways, and instead of the rays
Of enlightenment coming I'm getting quite dazed."
Said my friend, "Pray, don't let it get any darker,
'Tisn't really a dog, although he's a 'Barker!'

"A man full of knowledge as an egg's full of meat,
And on all learned subjects he's quite hard to beat;
He's President, too, of the N.Z.B.A.,
And just the right man, I venture to say.

"But he's great on the subjects—well, let us just see—
There's Botany, Beekeeping, Geologee;
Heredity, Fruit-growing, also Zoology,
He bewilders us all with his fine phraseology.

"But I must be going, there's really no knowing
How much we are losing whilst having this rest,
When collaborateuring in that alluring
Word Science that's spelt with a capital S."

So along to the barrow, so light and so narrow,
My friend went quite gaily; 'twas pleasant to see
How he pushed it along, he appeared quite light-hearted,
Round a bend of the road, then he straightway departed.

So let us all sing, "Long live the King"
And all his good subjects that are under his wing,
Particularly those who work, not for the "siller,"
But Science, like friend H. B. Bartlett-Miller.

—A MERRI-CUSS.

Extract from letter received:—"If at any time you should require anything translated for the Journal from the French, German, Russian, Polish, or Esperanto, or even Greek or Latin, so long as there is not too much of it, I should be glad to oblige you."—[We are very pleased to know we have such a linguist among our readers, and a good beekeeper too.—Ed.]

MY EXPERIENCES IN BEEKEEPING.

(By R. H. NELSON.)

Continued.)

As I stated in my last article, I was very much struck by the look of the Wairarapa, and determined to stay for a while. A man cannot live on air, even in "God's Own Country," so I looked around for something to do, and soon found it.

Whilst working down the Lower Valley, the farmer that I was working for came to me one morning, and asked if I would take his second team, as his second ploughman had left him in the lurch, and he wanted to get a crop of turnips in.

I would, certainly. I had never driven a team in my life! This happened in the month of November. After I had been at work a couple of days, a team and waggon drove along the public road. When he was nearly abreast of where I was, the driver gave a shout to me and pointed with his whip. It was a swarm of bees in the act of alighting on the ploughed land ahead to the right of me.

"All right, Bob!" shouted the driver. "Here's a box. Just go up and put it over them; they'll soon run into it."

"What! My son," said I, "I would not go up to that black lump for the Cullinian Diamond. I've lived in countries where there are deadly snakes—but that!" We held a council of war, and finally approached to about half a chain from the swarm and threw the box the remainder, and the bees went into it. In the evening the girl cook at the station, the most courageous of the lot, carried the swarm down to the station, and put it on the ground alongside the fence, and I began to get interested. When I found that bees were not such venomous creatures, I started poking around that old box every spare moment I had. I made a small stand on four legs about two feet high for them on the inside of the fence clear of cattle and horses; but—but I would need help to pass the box over the fence. Ha! the old cow-banger, he'll help me! He was a salvationist. I approached him thusly, cautiously at first:—

"John," said I; "I believe you're a Christian?"

"I am," said John, with the kindling eye of true hallelujah.

"I thought you were," said I.

After giving him some flopdoodle [P.S.—Flopdoodle is the kind of stuff fools are fed on] for a while, I finally persuaded him to lift the box and hand it to me over the fence. All went well. I was doomed from that moment: the microbe or whatever it is had entered my very soul. I poked around that old box morning, noon, and night. It cast a swarm about the New Year, and I knocked it down from a branch with a 14 ft. length of 1-inch piping, and hived it in another box.

It was about this time, as my appetite for bee culture was getting whetted, that I was very anxious to see the queen bees.

When standing at the box watching one Sunday a large flat kind of bee came out and had a look at the scenery. I immediately scooted off to an old gardener who knew all about bees—he said he did, anyway.

"Peter, come an' 'ave a look! The queen bee is sitting looking out of the entrance."

Peter came and had a look, but by that time there were several large flat bees coming and going into the box.

"Why, Peter, the darned thing is full of queen bees!" said I.

Peter adjusted his specs and gazed intently for a minute or so, then turned to me and said:

"Some of them are queen bees all right, and some are drones."

Wise philosophy, Peter! When in doubt, split the difference!

(To be continued.)

Correspondence.

(TO THE EDITOR.)

Sir,—Greeting, "Critic!" Glad to see you have come to life again, and captious as ever. I accept your friendly tilt: I quite agree with you, and when writing the paper hesitated whether it was necessary to differentiate more fully upon the modes of growth in organic and inorganic substances, and decided it was better to use the more subtle term—accrete. There are some intellects on this earth, however, who cannot tell the difference 'twixt a ju-jube and a peppermint! I don't bother to write for them.—I am, &c.,

W. E. BARKER.

(TO THE EDITOR.)

Sir,—The letter from Mr. Jas. McLay in the September Journal calls for a few lines from us. The directors have instructed me to make arrangements to visit as many of the beekeepers as possible before the next honey flow, beginning in Southland and Otago. To visit every individual beekeeper is impossible, so I would be glad to receive suggestions as to where and when it would be best to convene meetings or field days to talk over H.P.A. matters. Mr. McLay's letter is encouraging, coming as it does from a man and a district where we are but little known. I am glad to say there are others in the same district who are earnest co-operators. The prospects for the co-op. movement in Otago and Southland are very bright.

Mr. Barker mentions a beekeeper who sold his honey at 4½d. From what we can gather, this man is only one of a number who for the past two seasons have sold below what we are advancing. If I am right in my guess as to who the beekeeper is that Mr. Barker refers to, I can safely say his honey would have graded light amber A or B grade, and we would have paid him 4¾d. This with the ¼d. per lb. we are now paying out as a progress payment on that grade would represent an advance of 5d., with practically a certainty of a bonus, too, later. We could understand our friends selling

at a higher figure if they could get it than we are advancing; even then they would be claiming to possess a longer range vision than we can boast of, for we can form no idea what our bonus will be; but to sell below our advance suggests unnecessary philanthropy or an ignorance of market conditions.

We hope beekeepers everywhere will be slow to sell their next season's crop in advance. We cannot say at present what we will be advancing, but we can safely say that it will be more than we are paying out this season. Prices in England and the United States are very high, and we have no doubt that Major Norton knows how to sell honey, and will return to us a price for our honey in keeping with the prices at present ruling consistent with the sound steady policy necessary to build up and hold a good retail connection. We are in the field to stay, and we do not want our agents nor will we ourselves follow a catch-penny policy that will bring us perhaps a few shillings extra to-day and leave us stranded to-morrow. Frequently since we have been in business we could have sold our bulk honey for more than it was netting us in our retail packages, but what a weak, short-sighted policy it would have been. To-day we have a demand for our retail packages that we cannot satisfy, and at our own prices. If we had sold the honey in bulk the other fellow would have built up the connection, and would to-day be dictating prices. The same applies in Great Britain: we want to preserve the connection we have built up and extend it. A catch-penny trade that will give us a few extra shillings to-day and leave us at the mercy of the brokers to-morrow is not worth having.—I am, &c.

H. W. GILLING,
Managing Director N.Z.C.H.P.A.

Hawera, September 16.

ROLL OF HONOUR.

"Our hearts, our hopes, are all with thee,
Our hearts, our hopes, our prayers, our tears;
Our faith triumphant o'er our fears
Are all with thee, are all with thee."

—Longfellow.

B. G. EDWARDS, late of Geraldine. Invalided home.
L. D. CARTER, late of Springfield. Invalided home.
E. A. DENNIS, Glenroy.
W. A. HAWKE, Whitecliffs.
H. SMITH, Woodbury. Killed in action.
W. B. BRAY, Banks Peninsula.
R. N. GIDLEY, Christchurch.
J. SILLIFANT, Christchurch.
P. B. HOLMES, Pirongia.
T. H. PEARSON, Claudelands.
R. E. HARRIS, Te Kowhai. Wounded.
J. P. IRELAND, Te Kowhai.
G. R. WILLIS, Pukekohe.
A. ECKROYD, St. Albans, Christchurch.
A. CURTIS, Porowhita.
W. G. DONALD, Brookside.
E. N. HONORE, Otakeho.
E. JEFFERY, Opotiki. Died in Egypt.
J. B. ARMSTRONG, Opotiki.
G. ROGERS, Opotiki.
C. BICKNELL, Greytown. Killed.
P. OTOWAY, Featherston. Killed.
G. NAPIER, Alfredton.
N. C. NAPIER, Alfredton.
W. J. JORDAN, Ngaruawahia.

ANSWERS TO CORRESPONDENTS.

G. W. F., Dannevirke.—If, as you say, it is not my fault, why apply the "blister"? I have quite enough sins of my own to answer for, without having other people's tacked on.

"Subscriber" asks: Does the immature bee pass excrement whilst confined in the cell?—I have never seen the question asked before, but my opinion is decidedly No. An article on foundation-making will appear at a future date.

The Beekeepers' Exchange.

ADVERTISEMENTS on this Page will be inserted at the rate of 2/- per 36 words per insertion.

THE QUEEN BEE.

By H. BENTON.

With the majority of beekeepers it is believed that the queen governs every act and impulse of the colony. Such, however, is not the case. On the contrary, she is the servant of the bee commonwealth in the hive, and as such must do their bidding. Let us dwell on the life of a queen from the start.

During the first two days of her life she wanders aimlessly about the combs. The other bees go about in seeming unconcern at her presence, and she is left to forage for herself as best she may. On the first suitable day she takes her wedding trip, and returns impregnated with the vital essence of the drone. Before her marriage flight she was the least considered of all the colony; now she is welcomed home with public ovation, lauded, fed, and fondled. Right here we really get the master-key to the whole system of bee government. It would be an anomaly if all the highest and most important functions of a colony had to be entrusted to the queen, and we find in fact that no such reliance is placed uopn her. The worker bees, who take her in charge on her return from her mating flight, henceforth originate her every act and impulse. We already know how she is led from cell to cell over the comb when she is laying; how she is caused to lay in the early spring only a few eggs a day, while in the summer she may produce several thousand, and how her output may be checked at any point between. Now we are to realise how it is all brought about, or at least bring conjecture as near to certainty as possible with so difficult a theme. Now that her fecundation has been achieved, she has a whole suite of chamber women, whose duty it is to feed her with the same rich food that was given her when but a larva in the cell. This food consists mainly of honey and pollen predigested, but it has been proved that its composition can be altered at the will of the ministering bees, and additions to it are made either separately or combined, in varying proportions from three or four distinct glands, each of which exudes a liquid differing in nature to that of the rest. This particular kind of nourishment given to the queen, who is to be urged on in the work of egg-laying, has the effect of stimulating her ovaries. The more food of this kind she receives, the greater will be her prolificacy. On the other hand, a diminishing allowance will mean a corresponding decrease in her egg-laying powers; while if this rich food be withheld altogether, and she is forced to help herself from the honey cells, the development of these eggs may cease entirely, as it actually does in the coldest time of the year. Thus the bees play upon her, producing just the music needed for their purposes. When autumn comes her generous fare is slowly withdrawn, her retinue thins and disperses, and she becomes a solitary wanderer again, sipping with the commonest worker at the plain household sweets.

From the foregoing you will understand how it is that a queen can be taken from a hive in the height of her fecundity without any serious effect on her health. The queen is really

a delicate piece of egg-laying mechanism, which is regulated at the will of the commonwealth within the hive.

It is quite plain after studying the foregoing that the issuing of a swarm must be all a prearranged affair, requiring careful planning and reasoning; therefore it cannot be called an instinct. They start rearing other queens, which have to be constantly guarded from the reigning queen, who is receiving a diminishing allowance of the particular nourishment given to the queen so that she will be the better able to fly. The queen, after trying for several days to get at her rivals in cell, whom she can hear piping, eventually becomes so furious at not being able to get at them that she runs out of the hive and takes wing, and is followed by the bees that constitute a swarm. This last is theory; who has a better one? Who says swarming is an instinct?

13th August, 1917.

AN UP-TO-DATE METHOD OF NUMBERING HIVES.

By C. E. QUAIFE, Russell's Flat.

All beekeepers know that a good and efficient system of marking hives in a large apiary is absolutely essential, and considered by specialists indispensable for the best results. Various ideas are in use, most of which are very complicated and unreliable. For the benefit of your readers I will endeavour to outline a very simple method, whereby the operator is able to tell at a glance the number of each individual hive without the aid of hive-numbering, &c.

Assuming an apiary comprising 100 colonies, all of which are placed in rows, 10 in each row, with a distance of 6 ft. between the hives and 10 ft. between the rows. A piece of board 6 x 6 x 1 in. is then cut and let in, being made secure by two screws to one end of a 2 x 2 in. hardwood stake 3 ft. long and well pointed at the opposite end. Having made 19 similar stakes, they are given two coats of white paint to within 1 ft. of the pointed end; this is given one coat of tar, and allowed to dry thoroughly. With the use of large stencils the cross-boards are numbered so as to have two of the same number except 10, one of which is sufficient. The stakes are then taken out to the apiary, and No. 1 is driven in the ground about 3 ft. from the back of the first hive in the first row. No. 2 is driven in the same distance from the back of the second hive in the same row, and so on up to 10. The remaining 9 stakes are driven in along the row on the right hand side, driving No. 1 stake 3 ft. to the right of the second hive and No. 2 stake the same distance from the third hive, and so on up to 9. Having all the stakes so arranged, the apiarist is able to see at a glance the number of the hive he is working at by simply reading the number on the left and the number behind the hive. For instance, if the number on the left is 5 and the number at the back of the hive is 7, then the number of that colony is 57.

A FEW STRAWS FROM THE BATTLE FRONT.

Though being absent from active service at the home apiary this last eighteen months, interest in relation to the industry has not vanished, and a Journal at odd times from my brother, who is "carrying on" at home, keeps one to some extent in touch with how things are going in New Zealand, and a regular supply of honey sent over by parcel mail helps to keep one sweet when in such circumstances as we get out here at times. Again, one's friends, too, are interested in the arrival of such parcels.

As far as I can remember, we have had an issue of honey for rations about four times, and I might inform you it is short life to the honey. Apart from this, one can usually buy honey in the canteens at a franc and a-half (15d.) per lb., put up in 1-lb. tins, a much poorer class of honey than the New Zealand average grades. Then there are the French shops, where one can usually buy honey (miel), either in glass jars or paper pots; the pots especially are very uncertain, whilst the price in both receptacles runs very high, about an average of 1/6 per lb.

The parts of France where the New Zealand troops have occupied are not suitable for commercial beekeeping, there being no large areas of permanent pastures, whilst the seasons, judging by what we have had since arriving (last April 12 months), are not altogether ideal for beekeeping. I believe, though, these were exceptions, both summer and winter being the worst for a number of years. This spring seems to be opening up very favourably.

Being interested in the industry, naturally one keeps an eye open for possible apiaries or odd hives, but although I have travelled a good many miles over French soil in these parts, I have not noticed, I suppose, more than a dozen or two hives altogether. Coming along the road the other day we saw one hive, and stood to see if the bees had survived the winter, and in a couple of minutes saw one enter, my mate remarked "with full pack up." She had evidently been having a good time on the dandelions gathering pollen.

In this country wasps seem to be as numerous as bees, and very cheeky too at mess time when the jam tins are open, and they are the cause of not a few uncomplimentary remarks by the troops, though not so bad as the flies in Egypt. Like the bee, the wasp has a knack of sitting down very hard under certain circumstances. After one got between neck and collar, I had the pleasure of advising one of our doctors that the pain would not last long, and there would be only a slight swelling for a few hours. Beastly things!

France is well worth considering as a possible market for our honey after the war.

Corporal T. H. PEARSON, 3/1715.

"Somewhere in France," 19/5/17.

CARNIOLANS.

By J. C. HOBBS.

I was much interested in the article "Carniolan Bees," page 641, and hasten to give my experience with those bees.

Twenty years ago Hobbs Bros. procured five Carniolan queens from a leading breeder in Australia, and I had most to do with them. They were introduced into colonies in an out apiary. One month before any swarming was expected I visited the apiary, and found the hives chock full of brood; in some combs every cell was about filled, and, what I have never seen with Italians, there were strings of sealed drone brood between many of the end bars of the frames, and to my very great astonishment several of these colonies had swarmed. They introduced an excessive swarming element among our bees, that took years to eradicate.

A small swarm was taken of these swarmers to another apiary in a three-comb nucleus hive. Throughout the season it built up to a two-storey colony, and at the very end of the season, while the combs of honey were barely started to be sealed, to cap everything, this colony swarmed.

I have no wish to try Carniolans again. These bees were always given plenty of room; were wintered in two-storey ten-frame hives; nine frames in a hive were used.

Mr. Lenz once told me he had a queen with Carniolan workers, a mis-mated one from Australia. They beat the Italians out and out for honey gathering, and he thought if they could be handled to get them over the swarming they would be the finest bees in the world for gathering honey. Well, it is a job I do not wish to undertake. You would need, I think, not a 12-frame but a 20-frame hive. I am quite willing to leave the task to someone else.

Kauwhata, Palmerston North.

[The above is the other side of the question, and not quite so rosy. Nevertheless, I should be willing to try a queen, just for the experience.—Ed.]

STRAY BEES.

By R. B., Bay of Plenty.

In an address before the New York Association of Beekeepers, Mr. Arthur C. Miller said that it cost 2¾d. to produce a pound of honey. In New Zealand the cost will be somewhat higher than this, especially now that the price of materials and labour have gone so high. But who can tell us what is exactly the cost of producing honey from a pounds, shillings and pence point of view, and not considering sentiment, pleasure, or sport? Unless this question is correctly answered, there is no way of figuring whether beekeeping pays or not.

Will honey put up in second-hand benzine and kerosene tins for export, receive the same grade points (other things being equal) as honey put up in new tins and packed in specially made cases? This is a point that should be settled at once, so that beekeepers could begin making a collection of old tins and cases, or send their orders in for new tins and cases at once, so as not to be confronted with the want of containers when the honey begins to come in. We know of an apiary where the tins and cases for the 1917-18 crop were bought, oiled, and stowed away twelve months back. The packing of honey in second-hand oil-tins is certainly a retrograde step in the direction of those days when honey was strained through an old flannel shirt hung before the fire. We have advanced very far since then, but why go all the way back?

Beekeepers are often advised to fumigate combs with sulphur for the purpose of destroying the wax moth, but the advice is very mischievous. Sulphur fumes, if made strong enough to destroy moths and their eggs, will also ruin any iron or steel machinery and tools contained in the building. Even when it is possible to carry out the work in a specially made room, the damage will be great enough, for all the exposed wires in the frames will be eaten away, and even the wire in the mid-rib will disappear in places.

The Editor says, in regard to honey sold in an Auckland mart, that "the only redeeming feature was that it brought 7d. a pound." If the H.P.A. should show a redeeming feature of this kind, not many of us would waste time looking for non-redeeming features. When the dairy farmers' co-operative companies got going some years back, the growl was that the merchants paid them about double the price that private individuals could get, even for the same class of article. Can't we beg, borrow or steal a leaf from the dairy farmers' book?

In nearly every newspaper can be read the statement that beekeeping is the best occupation for returned and disabled soldiers with limited means. Any soldier who is tempted to believe this tale should spend a season in one of the large apiaries, and see for himself what the work is like, and also see the amount of capital necessary to work the business. It should be stated that capital put into the beekeeping business is seldom or never recoverable again should the beekeeper have to sell out in two or three years' time. Usually a beekeeper sells out at from 25 to 50 per cent. below what it cost him to start, while a dairy farmer mostly obtains from 50 to 100 per cent. above the amount he invested. Someone will probably feel like saying that it takes more money to go into dairying, but this is also a mistake, for in these days there are a large number of farmers on sections worth three or four thousand pounds, and all the capital they started with was two or three hundred pounds. Things are thus because the dairy farmer is a far better business man, and values his labour and belongings at their true value, while the beeman will place any old value on what he has. The beekeeper, in order to carry on successfully the work of the apiary, must have considerable knowledge of carpentering, painting, engine-driving, beekeeping, &c., yet if asked what wages a beekeeper is worth

he will tell you that he thinks somewhere about 9/- or 10/- a day is enough. This, too, while he knows that roadmen get 12/-, carpenters, 15/-, bushmen 20/- and upwards, with no stings or responsibility to worry about. This is probably the reason why honey has not advanced in price with other foodstuffs, for there is always some relation between the cost of labour required and the selling price.

Among the improvements in our Journal, perhaps the decision to have it illustrated is the most important, and in future there will be a rush to see the pictures, especially when groups of beekeepers are being shown. The Editor is also to be complimented in making the Journal more valuable from a business point of view. The list of addresses on the first page will save much time, and the intimation that articles must reach the Editor on or before the 20th of each month is useful information.

In the last issue the Editor offers an apology for the erratic manner in which these notes have appeared in the past, which we cheerfully accept, on the condition that we are allowed to explain that the irregularity occurred before the present Editor took office, and therefore he was in no way responsible. The Editor is so enthusiastic about making the Journal a success that he is not going to let anything stand in the way, and everyone should assist all they can. If you have not time to write for the Journal, you can find a new subscriber or subscribers and send along their subscriptions, and in this way perhaps you will be helping more than the writers. It all helps to make our Journal better, and the illustrations will be all the brighter for it.

NOTES.

(By FIRST AID.)

Registration.

I wish to add my congratulations to the Director of the Apiary Division for bringing into line the Registration of Apiaries. This is a great step in advance, and should help to locate hives of bees for inspection.

Queen-Rearing (p. 656).

In following out Allen Latham's method of easy queen-rearing, it is well to bear in mind that he uses a deep closed end frame, the depth being nearly double that of the ordinary Langstroth. There are seven of these frames to his hives, thus giving the queen ample room, and resulting in rousing colonies. Under such conditions, it is possible for him to rear 50 to 100 good queens, but in a 10-frame Langstroth I feel sure equal results could not be obtained. Perhaps those two lady apiarists could tell us how those thirty queens (p. 656), the survivors of the sixty queens raised, have acquitted themselves this spring in egg production?

Conference (Those Absent Ones, p. 663).

I quite endorse Mr. Ward's remarks as to the absence of the "big guns" at last Conference. It has this merit, however, of giving "a field for the small guns." It would be more to the point if the Editor would specify by name the leading lights in apiculture whose presence would be desirable at the next Conference. This might spur them up to make an effort to attend.

That 10-ton Crop of Honey from Southland.

It was reported that Mr. James Allan secured this amount of honey the past season, and I am sure it would prove of interest to our readers if he gave his method of management to secure these grand results.

Bees (p. 667) Feeding.

In instructions given beginners, and very lucid and concise they are, no mention is made of the size of spring entrance. Alexander advocates a 2-inch x ⅜-inch for a full colony, so that in the middle of a fine day the bees are busy fanning.

The question of spring feeding I should judge from "Bees'" remarks to be a very important one, and I have a shrewd suspicion it would pay to feed all colonies for six weeks, irrespective of stores, a little warm syrup daily when honey was not being gathered. I am given to understand two lady apiarists experimented in this direction as well as a small entrance last spring, and they certainly met with success. Perhaps now that their names have already appeared in print they might be induced to tell us something about it.

Honey Method of Queen Introduction (p. 657).

This is an excellent method, but just one word of caution: be sure the honey is of blood-heat, otherwise if too cold the queen will be chilled. This happened in my apiaries the past season with one queen, resulting in her raising drone brood only, having previously in the nuclei produced worker brood.

THE SO-CALLED BEEKEEPERS' PARADISE.

Why so many beekeepers out of this district think that the Bay of Plenty is the beekeepers' paradise I cannot understand. We certainly have under ordinary circumstances a lovely climate. But even this has been very contrary this past twelve months, for we have had nothing but rain, rain, rain, and then floods for a change. In my particular district thousands of acres of grass paddock have gone back to swamp grass, which produces no honey, and I know many other districts along the Bay are just as bad.

As far as honey is concerned, we get plenty of a kind. My home apiary is of fair quality, but it needs a lot of patience to get all or nearly all the honey extracted.

Last season I started two out-yards. The honey secured was of fair quality, and the combs were capped over as white as ever I have seen cappings. But when it came to extracting,

it was absolutely impossible to extract any of it; the honey would draw out like glue, even when heated to 100 deg. for eighteen hours.

Quite recently two beekeepers came through from down south to have a look around, as they had heard such good reports of the Bay of Plenty; they thought they may shift through later on. I did my best to show them around, and tried my best to praise the place up to them, but it was useless; they wouldn't give me a look in, and after two days they decided not to go any further, and so went back thoroughly disgusted. They couldn't get over the 50 miles trip from Rotorua by motor and coach and some part of the way by walking, for the roads have "some" mud on them, also "some" holes.

Last February a beekeeper friend of mine came down by boat from Auckland, for he wanted to get here quick and dodge the 50 miles coach or motor from Rotorua. He certainly got within sight of the place quickly, but it was extremely bad weather just then, and the boat couldn't get alongside the wharf, and so had to lay out, and for two days he fed the fishes.

These are just a few of the many obstacles we have to get over in this place, where there are bad roads and no trains. I have written these few lines to give the outside beekeepers some idea of the place I am living in, which is called by many who do not know the district the beekeepers' paradise, and should there be any beekeeper wishing to come along this way, don't forget to look me up. I can give you a shake-down, and will be glad to see you. There is plenty of room in the Bay of Plenty for more beekeepers, providing they are prepared to deal with thick—yes, very thick—honey.

I note with interest, Mr. Editor, what you have to say about wood mats or any other kind of mats. I wonder if anyone can inform us if mats are a necessity, or, better still, how much more honey per colony would one get if he used mats. I think more depends on the covers than mats, so let us hear from someone who has tried it out extensively. Also, can anyone inform me of a quicker method of filling 60-lb. honey tins than the ordinary slow way through a 1½-inch or 2-inch honey-gate. This method with thick honey requires a lot of time and patience. I have the patience but not the time, even with two tins being filled at once is far too slow a process. Thank goodness there is no foul-brood in this district, but we have thick honey to contend with and wax-moth galore. This winter I left a lot of the extracting supers on the hives, with a mat over the top of the bees, with one corner turned back so the bees could get access to the super. On going through the bees last week I found the combs nice and clean, for the bees apparently looked after these very well; but the top of the mats were just alive with wax-moth grubs, which never had a chance to leave the mats. The bees are all Italian, otherwise there might have been serious trouble, for the black bees will not resist the moth like the Italians. I found brood-rearing going on in all the hives except three, which were queenless. These three were united with three of the weakest with queens.

The bees are busy working on gorse and tree lucerne. I shifted 75 per cent. of the colonies in the home yard to the hills, a mile and a-half away, where the manuka is out in bloom, and close to a large stretch of native bush. These will be moved back again about the end of October.

In this district I have seen bees working on manuka on the longest and shortest day, and I have noticed again and again that the Italians will not work on the manuka if they have anything else to work on; but the black bees will stick to it. Last December I noticed the bees working very hard on the manuka close to my apiary, so I started to investigate, and found I could count fifty black bees to one Italian, yet to my knowledge there were no black hives within a mile and a-half to two miles away.

A. L. LUKE.

Awakeri, via Rotorua, N.Z., 30th July, 1917.

HONEY-PRODUCING HEDGE PLANTS.

(By F. A. JACOBSEN, Apiary Instructor.)

The matter of honey-producing hedge-plants that would assist the bees during the lengthy period between fruit-bloom and the autumn was under discussion at the last meeting of the Wellington and Moutere Fruit-growers' Association. The writer was asked to supply a list of the most suitable hedge plants that would be of benefit in providing pollen and nectar. The following are recommended, with reservations as indicated in several cases:—

Common Privet.—A good hardy hedge plant that blooms white from the middle of November onwards. The scent from this plant is so strong that some object to it close to dwellings.

Elder.—A hedge plant, but not commonly used, as it is apt to spread and become more or less of a nuisance, and is difficult to eradicate. It has clusters of white flowers that later turn into berries, and are commonly used for wine-making. Blooms freely.

Escallonia Pterocladon.—The best of this kind for hedge-planting. It makes quick growth, and blooms freely. A valuable honey-plant, forming a useful and ornamental hedge.

Escallonia Macrantha.—Blooms bright-red flowers. A valuable honey plant, and forms a good hedge.

Escallonia Rubra, Escallonia Exoniesis, and Escallonia Montevidensis may also be mentioned. The last named has large spikes of white blooms, and is useful as an ornamental hedge plant.

Black-wattle (Acacia Decurrens).—A fast-growing tree, excellent for general shelter, but not suitable for hedge-planting. Valuable in supplying pollen for bees.

Berberis Darwinii.—Makes a good evergreen hedge for small gardens. Requires clipping twice annually.

Sallow Willow.—Forms a strong hedge, and is very valuable to bees. Blooms about the time fruit-trees are in blossom.

Tagasaste.—This is commonly but incorrectly called "tree lucerne." The plant is exceptionally fast-growing, but should not be grown within the reach of stock. Requires frequent cutting, but is very valuable to bees, and blooms in the late winter and early spring.

—Journal of Agriculture.

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