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THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

Published by E. TIPPER, West Maitland

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

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"The Australian Bee Bulletin."

A Monthly Journal devoted to Beekeeping.

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

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

MAITLAND, N.S.W.—FEBRUARY 28, 1910.

EDITORIAL.

At last! During the last few weeks our bees are in full swing, as plenty of honey is coming in all of a sudden. The weather is simply suited for that purpose, and the bees are busy from early daylight till dawn to the delight of the beekeeper. It is a long lane that has no turning.

I hope most are as busy as Mr. J. J. Parry, taking off supers full of delicious sweet. It is pleasure to keep bees then, is it not?

The other day I received the "Bee Farmer" a baby of two months of age—I did not see the first month's—I wish it good health and long life, and every other good thing that comes into the lap of such as he. I looked, however, in vain for the father of this little mite, nor the good father either. Why is that? If a thing is worth doing, it is worth doing well. We are thus plentifully provided with journals; but is that helping the industry any? Or is there so much profit in the publication of a bee-paper that the more the merrier? I can understand a factory and supply firm reaps a benefit by publishing a paper for their own sake and benefit. But Australia is not a thickly populated country, and thus the more bee-papers are published, the more the industry must suffer; not prosper. I am glad that I am connected with the oldest bee-paper in Australia, and it will outlive some others of more tender age; because therein is always found full and faithful information on all subjects appertaining to beekeeping.

NEW SOUTH WALES & COMMONWEALTH BEEKEEPERS' UNION.

RULES.

(Subject to Alteration.)

Styled : THE NEW SOUTH WALES AND COMMONWEALTH BEEKEEPERS' UNION.

1. Objects and Aims: To aid and assist beekeeping in all its branches.

2. Members are beekeepers or have particular knowledge of bee culture.

3. President, Secretary, Treasurer and two other beekepers form the executive to carry into effect, to the best of their knowledge, all matters submitted to them by members regarding Union business.

4. Vital questions or subjects shall be decided by members voting per post.

5. Subscription to Union, 5/ per annum, dating from 1st July each year, payable in advance.

6. All expenses, except time, incurred by any of the Executive on behalf of the Union's business to be paid them out of funds of the Union.

7. Members agree to abide by majority rule.

8. All correspondence to be addressed to the President for the time being until otherwise arranged, who shall publish in the "Australian Bee Bulletin," or send each member (not a reader of the A.B.B.) periodical reports of the Union's Executive works.

9. Members are resuested to submit to the Executive matters which they desire to be decided on by vote or referendum.

EXECUTIVE.

ABRAM, W., Beecroft, President.
BRANCH, J. J., Enmore, Hon. Sec. and Treas.
LORD, H., Technical College.
PARRY, J. J., Erina and Parliament House.
PARKER, D. W., Turramurra.

A meeting was held on the 21st inst. Present: Messrs. W. Abram, J. J. Branch and H. Lord. Apologies were received from Mr. D. W. Parker and Mr. J. J. Parry, who is too busy just now to carry in the full supers, because black butt, blue gum and peppermint are in full bloom. Minutes were read and confirmed.

The circular and correspondence in reference thereto received careful consideration, and it was found that the most replies indicated too busy a time for beekeepers to spend some days away from bees. Therefore, it was decided to defer a convention till June, as it is thought more convenient a time, and it is desirable to have a representative meeting, in order to take further actions in various directions.

To give you an idea of numerous letters, I will cite just one.

Mr. McIlveen writes:—"Owing to pressure of work, your ballot paper was overlooked. I apologise for the neglect. I certainly think a convention should be held, but I do not know which month—March or June—is preferable. It will be impossible for me to be present in March, and June is so far away that I cannot say definitely whether I can be present then or not. I would like to send some exhibits to the Sydney Show, but the distance is prohibitive."

Although a regular convention may not be held, there is no reason why a meeting of those who are in Sydney at Easter should not be held to discuss some mat- affecting the industry. W. Abram will be at the Bee and Honey Pavilion pretty well every day, and if country beekeepers will look me up there, no doubt, some arrangements can be made to meet—say on Tuesday, the 29th.

A communication from the District Surveyor, Wagga Wagga, addressed to W. Abram was then dealt with. It reads as follows :—

"Take notice that the Local Land Board, for the Land District of Gundagai, will sit at 10 o'clock in the forenoon of the 3rd day of March, 1910, the Court House at Gundagai, and that the matter stated at the foot hereof is set down for hearing at that time and place.

"If you fail to appear, the Board, if it so see fit, will proceed in your absence.

Dated, Wagga Wagga,
14th February, 1910.

Matter for Investigation:—Application by J. J. Cornett for Special Lease 09:20, Gundagai. (Re your letter of 22.9.09 on behalf of J. Sullivan, of Nangus.)

The President states that on receipt of above letter he at once sent a copy of it also a copy of September issue of the A.B.B. to Mr. Sullivan, with the further advice that as the President could not go to the expense to attend on his own account, Mr. Sullivan should place the matter in a good solicitor's hands, and have him to represent the industry on his behalf, unless Mr. Sullivan choose to pay my expenses.

This was considered satisfactory, as the Union would not use their funds for expenses of individual interests.

BEEKEEPING IN NEW ZEALAND.

An Object Lesson for New South Wales.

The annual report of the Division of Biology and Horticulture of New Zealand contains a very interesting account of the progress of the bee industry in the Dominion. It states that the operation of the Apiaries Act have already proved very beneficial, and the old box hive, which is so liable to breed disease, is gradually being suppressed. Where foul brood exists, the officers have very little difficulty in persuading owners to treat the disease, or if in an advanced stage, to destroy the hives. The industry is rapidly expanding, and it is confidentally estimated that the output of wax and honey will, during the coming season, be worth at least £45,000.

The prominent feature of the New Zealand system is the establishment of Government apiaries. These are situated at the experimental stations of Weraroa and Ruakura. Cadets are accepted for the season, who are allowed to take part in the actual work of the apiaries, and thus obtain very valuable knowledge, which they could not get at first hand by any other means. A special queen-rearing station has been started at Waerenga, from which queens have been supplied to 70 apiaries. Next season it is anticipated that there will be a much larger supply, and that the station will prove profitable from a monetary point of view, as well as a great assistance to apiarists, by supplying thoroughly tested and trustworthy queens. The apiarist, Mr. J. Hopkins, states that during the year there has been a very continuous and gratifying advancement in commercial beekeeping in New Zealand. There are now six beekeepers' associations in different parts of the Dominion—in Southland, Canterbury, Waikato, Gisborne, Hawke's Bay and South Taranaki, which are all doing good work. The past honey season in New Zealand proved rather disappointing, owing to the frequent and sudden changes of weather. It opened most auspiciously, giving promise of an abundant harvest, but a long spell of wintry weather ensued, which prevented the bees from working to the best advantage. The last few weeks of the season, however, proved very favorable. The demand for first-class table honey is increasing very rapidly, and more than keeping abreast of the increasing output, for which the improved methods of saving and marketing are responsible in a great measure. It was noted that those who bought honey for the first time, and got hold of a first-class article, became regular customers afterwards. The statement is made, also, that there is no need at present to look for outside markets, as the local demand is such that prices will remain at a satisfactory figure for some time to come.

A comprehensive system of inspection exists in regard to all apiaries, and this has done much to ridding the country of bee diseases and pests. Practical demonstrations and addresses on bee-culture are also given. Great success has attended the treatment of foul brood. This disease and its causes are now very well understood, and with ordinary care and attention there is very little to fear from this once serious pest. Like most other things of its kind, its existence is largely due to carelessness or indifference on the part of a few beekeepers. This class, however, is rapidly disappearing, at any rate in New Zealand.

Trusting, Mr. Editor, you will insert this in your valuable journal, so that those who read may reflect on what might be attained in New South Wales.

I am,
NOVICE.

[The Executive of the C.&N.S.W.B. Union have had several interviews with the Government authorities, to induce

them to be to the froe in the matter of the bee industry; but so far have not obtained the reasonable support that this industry requires.—Ed.

FOR BEGINNERS.

As a bee journal is not solely read by practical up-to-date beekeepers, but also novices and others, these must be catered for. With this object in view, I am willing to devote several pages to subjects that will interest and instruct the beginner, and I shall be pleased to receive contributions from those who have gone through the mill, to help and assist their followers. A beginner has very little knowledge of the terms and expressions of a high standard work. He has to be told in plain words what to do. We all had to begin in that way, and thus I will inacgurate that subject.

THE HIVE.

The hive is a contrivance specially made for the purpose of convenient and useful management of bees, thus the gin case and other cases beekeeper stands in his own light by keepeing to the old fashioned method. A hive contains generally 8 or 10 frames, the self-spacing pattern being mostly in use. But before a swarm is put into the hive, each frame has to have either a starter the full length of the frame, and about an inch wide, or else a full sheet of foundation fixed, in which latter case several wires are drawn tight in the frame and rolled into the sheet of foundation. Full instructions are given with these hives and frames how to set to work the right way. If starters only are given, it is necessary to occasionally look in and see that the bees build the combs straight, when they will always be easy to handle.

When the 8 or 10 frames are nearly built out, another story should be added, or a crate of sections may be given, if preferable, each fixed with starters. The lower is called the brood-chamber; the upper the honey or surplus chamber; and more than one may be used, one above the other if required. Bees will not build in the upper story unless there is more honey coming in than they can use in the brood-chamber; but it is wonderful what they will do in a good season and under favorable weather.

When removing surplus honey, care should be taken that there is enough left in the lower hive to carry bees through any adverse spell of weather, when they cannot gather any. This is especially necesary before winter.

WINTERING.

To properly prepare the bees for winter is the main factor as to next year's success or failure. In some localities, or some winters, the bees actually require no attention. They look after themselves. But that does not always happen. Therefore, every hive should be examined before winter; the amount of honey noted and the approximate quantity of bees. No hive should have more combs than the bees can conveniently cover. But they should contain the required amount of honey. In the coastal districts about 12 lbs. of honey will carry them through till next spring. In colder parts a few more pounds are better. The combs should not be all full of sealed honey. Bees need the lower part of combs to be empty, with the honey above them. I never leave a top story on if I can help it; it makes the hive too cool and the bees uncomfortable. Make them as snug as you can and they will be all right, and able to resist the weather changes.

If, in future, some kindly disposed person will follow this subject further, the uninitiated will be thankful.

W. ABRAM.

When you want Honey Labels send for Samples to the "Bee Bulletin" Office.

PRIZE COMPETITION.

The Publisher of the "Australian Bee Bulletin" offers Prizes for competitive contributions on subjects appertaining to Beekeeping, under the following conditions:—

1. The prizes are:—1st, 7/6; 2nd, 5/0; 3rd, 2/6.

2. Competitive articles to be addressed to Mr. W. Abram, Editor A.B.B., Beecroft, headed "For Competition." Write full name and address, but also affix a sign or mark, as it is intended to omit full name on publication, but to publish name of all competitors first issue after judging.

3. Entries for each month close on the 20th. Any subject may be chosen.

4. One judge will be appointed by the Editor, to act as single judge, but each month there will be a different judge, and his name will be published together with the results. The judge's decision is final.

5. Postal notes will be sent to winners on receipt of the judge's decision.

Our aim is to encourage juniors and amateurs to exercise their skill in beekeeping and in writing, thereby assisting one another. (The editor's son does not compete.) The most efficient beekeepers will be selected to act as judges. A copy of the A.B.B. will be sent to the one selected each month, and the results published next issue. Competition starts now, and prizes will be offered for your work. Who will win?

N.B.—This is a money prize competition—not a disposal of queens.

* * * *

THE SWARMING IMPULSE.

(By C.)

It is a fact that the swarming impulse can be almost entirely bred out of bees; but to what extent this is practical is a point on which much can be written with the view of guiding the amateur beekeeper. It has often been stated that the non-swarming and other good qualities go together; this is another statement surrounded by exceptions. Another thing that needs to be known is that bees that will not swarm in one district may be excessive swarms if shifted to another locality. Some years ago a well known beekeeper advertised a non-swarming strain of golden Italians. So I gave him an order for five queens, and the queens he sent produced such swarming bees that I had neither hives nor patience left during the following swarming season. After giving up the idea of buying non-swarming queens I set to work to breed a race of bees from my own stocks whch showed the least inclination to swarm; Of course taking particular notice that they possessed as many as possible of the desirable qualities, such as honey gathering, gentleness and hardiness. I never gave colour any consideration at all, and I can assure you that I have never had reason to regret it. I find that a bright golden colour in Italian bees a fault rather than a desirable trait. After carefully breeding queens in this way for two years, I was pleased to find that I had only about half as many swarms as I had on previous years. I sold some of these hives in the autumn of that year, and they were sent by rail about 60 miles. Now these very hives that seemed almost non-swarming in my district, were excessive swarmers where I sent them. Before saying too much about non-swarming bees, I would like it to be distinctly understood that bees that swarm occasionally, giving off a real big swarm, are much more profitable bees to keep than either excessive swarmers or non swarmers. I utterly condemn the idea of many beekeepers trying to breed an entirely non-swarming race of bees. Certainly they are handy for out-yard work where bees cannot be watched regularly,

but the continuous selection of queen-mothers from a non-swarming point of view must surely be selecting queens with other poor qualities as a business bee. For an all round business bee give me a strain of "Leather coloured Ligurian," which are moderate, but not excesive swarmers. Some breeds of golden Italians swarm very little; but I find that no strain of real golden Italians work with the same vigour as the darker race of three branded bees. Of late years, especially in Victora, beekeepers located in Eucalyptus forests, as a rule have not experienced much excessive swarming. In these localities, there is so often a dearth of pollen that excessive breeding seldom takes place. The conditions suitable for excessive swarming, of course, are abundance of pollen and lght flow of honey and warm humid atmosphere. In dry hot weather with a heavy honey flow, swarming rarely gives much trouble. There are, however, many little things besides the strain of bees that should be attended to if the bee-man wishes to have only a small percentage of his hives swarm. Plenty of room, accompanied with plenty of ventilation help a large extent to reduce the trouble. In "Gleanings," a short time ago, there is a nice illustration showing how an apiarist in America retards swarming, by raising the hive about half an inch above the bottom-board, by using a small piece of wood under each corner of the hive. In this way there is an entrance on every side of the hive. When hives are treated in this way durng hot weather, no bees will be seen hanging out at the entrance. If you are successful in keeping the bees from hanging out, except on very hot days, you will do much to keep the bees contented, resulting in much less swarming. It is late swarming I would like to overcome. When bees swarm out of season, there is something wrong in the management. Before concluding, I might point out that swarming is nature's way of keeping the bush stocked with bees, and to try and alter nature would not only be an impossibility, but a step in the wrong direction for success. To be a successful beekeeper you must study nature in its every aspect. Try your level best to keep your bees comfortable, both summer and winter, then you will be repaid in the shape of a good honey crop.

If you discover an excessive swarming colony in your yard, re-queen from stocks less inclined to swarm; keep down the drones from such a colony by going through the hive with an uncapping knife and shave off the heads of the capped drone-brood. Drones may also be kept down by using a trap on the entrance for a few days. You will find it profitable to keep all drones down as much as possible. and especially those from excessive swarming stocks. If a beekeeper takes all the above points into consideration, he will not find it difficult to improve his present strain of bees.

* * * *

HANDLING BEES DURING SWARMING SEASON.

(By Thos..)

October 15th, a fine hot morning, colonies well advanced. I naturally expect that there may be a swarm any day. Glancing through the brood combs of some of the most forward colonies in the yard I find queen-cells in different stages of development. In perhaps one or two colonies I find queen-cells fully developed and capped over, so I take the hint and keep a close watch for swarms. After keeping an eye on the colonies with capped cells, I have been surprised to hear a hum, and looking round I notice a swarm pouring out of a colony which I did not think was sufficiently advanced to swarm. When a

natural swarm issues, there are many ways of treating it. There is more than one right way and hundreds of wrong ways. A swarm may be hived on the old stand or on a new stand some distance away. If you only wish one swarm from each hive, and the weather is warm and settled you can do no harm by hiving the swarm on the old stand, although by some good beekeepers the plan is not appreciated, as they assert that the "embryo" queens in the cells are not as well nourished when all the field bees are taken from parent colony. Personally I do not think there is much truth in their assertion. For those who think there is, it would be best to hive the swarm on a new stand and give plenty of shade for the first few days, especially if the swarm is hived on full sheets of foundation, as the heat tends to buckle the wax when in full sheets. When you hive swarm in this way and only wish one swarm from each colony, you will require to examine the parent colony in about six days time, and cut out all queen cells, bar one. To make sure you don't miss a cell or two in a populous colony, shake the bulk of the bees off each comb as you examine them. Always select the best looking queen-cell for to leave, and do not shake the frame it is on for it is inclined to injure the undeveloped queen in the cell, especially at that time, as wing would be forming. After natural swarming has properly started, you can, with confidence, hurry matters on by artificial swarming or dividing. But when practising artificial swarming, I consider it highly important that you have plenty of laying queens on hand, either in Nuclei or brought from a queen breeder. To artificially swarm a colony of bees, simply find queen and place the frame she is on with all adhering bees in a new hive on the old stand and remove the remainder to a new stand some distance away. Introduce a laying queen, and the job is done; and I might say if conditions are as they should be when doing this work, you will have some splendid colonies in a few weeks by this plan.

Another thing worth coming under the heading of the swarming season is queen rearing from naturally built cells. I find that the very best of business queens may be reared from the cells found in our best colonies at swarming time, and if a beekeeper is on the look out he will find many good chances of making nuclei without the loss of any crop. A few after swarms hived on combs, make first class nuclei, and will stay anywhere you put them. Or you may divide a colony that has swarmed about six days after swarming. You could, in this way, have two good nuclei close together, and when you were finished with them you could unite them or build each up into a full colony. The clipping of queens' wings is a thing that may be done before swarming starts, and in a way largely preventing swarms from absconding. When you have made all the increase you wish for the season, get all hives evened up for the honey flow. Try and prevent all late swarming; it is a loss when bees swarm, just as a good flow starts. If you keep a good strain of leather colored Italians, give them plenty of room and plenty of ventilation. You will not be much troubled with late swarming. At any rate, this may be said in a good season for honey.

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HIGH-WHEELED AUTOS FOR OUT-APIARY USE.

Mr. Byron Walker, in his article, in "Gleanings," incidentally refers to the fact that he is using with some satisfaction a high-wheeled Holsman automobile for his outyard work. We wonder if there are not some others of our readers who have tested this or some other type of machine. If there are, we hope they will give us the benefit of their experience. While some of these reports may seem like free advertising for some of the machines, "Gleanings" will be glad to have the facts brought out for the benefit of its patrons who desire some cheap, quick, and reliable method to get to outyards.

We may say incidentally that high-wheeled automobiles, with solid rubber tyres, are fast coming to be an assured success. They will go over muddy roads without skidding, in a way that some of the high-priced pneumatic-tyred machines can not. In a limited way we have tested the two types of machines, and have become convinced that for bee-yard work, the buggy type of automobiles with its solid rubber tyres and high wheels has almost reached, if it has not already done so, a stage where the beekeeper can adopt it to advantage.

Where there are several apiaries from 20 to 25 miles away, it is important to have some quick means for reaching these yards in any kind of weather and over any kind of roads. We are using the pneumatic-tyred machine; but when the roads are bad and slippery we have to wait till they dry up. In the meantime work at the yards is neglected.

It is fair to state that the high-wheeled autos have not yet reached the state of perfection that has characterized the lower-wheeled machines with pneumatic tyres. The engines of the buggy type are cheaper in construction, in most cases air-cooled, run at a comparatively high speed, and are more or less noisy. In country districts, where horses have not become accustomed to them, a high-wheeled, high-speed, air-cooled engine mounted in one of these horseless vehicles, is likely to put the horse-drawn affair out of business, from the fact that the horse itself may have a regular "conniption fit." The motors of the pneumatic-tyred outfits, on the other hand, are of a higher grade, usually water-cooled, slower in speed, and, in some of the best makes of machines, comparatively noiseless. So far for our own use we have continued to use the pneumatics, principally because they are more reliable, better made, and are comparatively quiet while on the road. In our own locality, for example, we can pass almost any sort of horse-drawn vehicle with little or no danger of scaring horses.

We consider this question of the rapid means of reaching outyards a vital one. We believe the day is almost at hand when the horseless carriage will be the cheapest means of reaching these yards. The ordinary cost of gasoline and oil will not exceed a cent a mile as a rule. The ordinary horse, if he be maintained the year round, can not draw a vehicle to a yard short of five cents a mile, if we take into consideration the fact that he has to be fed oats and hay for over six months in the year when he is not in use. The gasoline horse, to carry out the figure, eats only when he is in use, and, moreover, does not require attention three times a day when he is idle in the barn or garage; and, what is more, when he is driven he can be steered among the hives without any danger of spilling the whole load because of a stray sting or two.

When you want Honey Labels send for Samples to the "Bee Bulletin" Office.

United Colonies and Feeding for Winter, More about Bee Escapes.

By Elmer Hutchinson, in "Beekeepers' Review."

Every fall we find a few colonies that are too weak to winter well. They are usually swarms that have been hived too late to build up for winter; or have a queen that has not been doing her duty as she ought to have done; or, are queenless entirely. In uniting those colonies we don't try to find the queens. It is rather a hard proposition to find a queen after breeding has stopped in the fall, even in a weak colony, and we just pile them up, one hive on top of another, until we have bees enough together to make a good colony; first smoking them until they are thoroughly subdued, and then let the bees attend to the queen business themselves. They always save one, and we very seldom lose many bees from their fighting. A week or so afterwards we pick out the best combs, that have the most honey in, fill the bottom hive with them, and shake the rest of the bees down in front of the hive and let them run in.

FEEDING THE BEES FOR WINTER—A QUICK AND GOOD WAY.

Our next work is to see that every colony has stores enough to last until June 1st of the coming spring The longer we keep bees, the more inclined are we to the belief that it is better to feed enough in the fall to last until the next honey harvest begins. We want each colony to have at least 30 pounds of stores when put in the cellar; and, if they are in ten-frame, Langstroth hives, more than that would be better.

The first few years we kept bees we used to set some platform scales on a wheelbarrow, go to each hive and weigh it, marking the weight on the back of the hive. Then we tried guessing the weight of each hive as we lifted it, until finally, we could guess so close that we dispensed with the scales. Now we lift each hive, and mark the amount we think the colony needs feeding, on the back end of the cover If they have stores enough without feeding we mark a cross on the end of the cover.

In feeding for winter we use and like the miller feeder better than any other we ever used, as it will hold 15 pounds of thick syrup. If the weather is warm we use the feeder on the top of the hive, but, if it is cold, and it is generally before we are through feeding, we use it under the hive. By feeding the syrup as hot as the bees can take it, and using it under the hive, one can feed during pretty cold weather.

HOW WE MAKE SYRUP FOR FEEDING.

At the home yard we use a wash boiler on the kitchen stove to heat the water. We bring the water to a boil, then empty it into tubs, and pour in granulated sugar and stir it until the water will disolve no more sugar. This makes a very thick syrup and it needs to be fed quite warm to enable the bees to store in their combs rapidly.

Some think it better to add part honey, or a little tartaric acid, in order to prevent granulation, but we have fed a great many barrels of sugar, prepared in this way, and, some years, part of it has been fed so late that none of it was sealed in the combs, and sometimes there would be a little left in some of the feeders and we never yet have known it to granulate.

After we get the syrup made we empty it into one of the honey extractors, then we can draw it off in a sprinkling pot, which, with the rose removed, makes an ideal thing to carry the feed in and to pour it in the feeders from.

HEATING THE WATER AT OUT-YARDS.

While we have a good, two-burner, blue-flame oil stove that we use to cook on at some of our out-yards, we can heat water much faster over a good fire out of doors. We set a galvanized iron tub on three or four good sized stones,

fill it with water, then build a fire under and around it, and it takes only a very short time to bring the water to a boil.

LOOK OUT FOR ROBBING WHEN FEEDING.

It is perhaps needless to say anything about this to the veterans, but to the beginner, who has never done any feeding before, a word of caution may not be out of place. In a short time after he has begun feeding, unless he waits until about dark, and he can't very well do that if he is feeding out-yards, he will probably think that the whole apiary has gone on a rampage of robbing; but he need not be alarmed just yet; the giving of the warm feed has stirred up the bees; they know there is feed being gotten somewhere, but many of them don't know just where it is coming from yet, so they rush outside and proceed to try all of their neighbors' houses to see if they can get some too. However, it does not take long for this turmoil to quiet down; unless, as sometimes happens, there is a colony or two that does not set up a very stiff fight, and then they do set in to rod it out in earnest.

We have tried stopping the entrance with wet hay, and while it may save it for a while, the robbers are very persistent in renewing their attacks on such colonies every time the bees are fed, and we have found it best to place such colonies in the cellar until the feeding in that yard is finished.

I see in "Gleanings" for September, page 525, that Bro. R. F. Holtermann takes us to task for using bee escapes. He thinks it a waste of time for any one that can take off their honey, without making trouble for neighbors and who understands the kinks to prevent robbing, to use bee escapes. He also objects to the warming up of honey on account of the foul odours from the coal oil stove. We can't help wondering if Bro. Holtermann ever gave the use of bee escapes an extended trial. Now, we have taken off honey for the last 25 or 30 years, quite a lot of it, too, in that time, and never used escapes until the last three years, and we would not go back to the old way of taking off honey by shaking combs and brushing bees as long as we can get escapes to use. We have some regard for our own, and our helper's comfort, as well as for our neighbors; besides we are quite sure we can take the honey off as quickly with escapes as without.

In regard to the point he raises about the coal oil stove, we would agree with him perfectly, if we had to work in the same room we heat the honey in. We would drop the whole system, rather than endure this, but we don't; we have a small room partitioned off to heat the honey in, and we only have to be in there long enough to get a super of honey at a time. If there is any odour in the room we work in, it is so slight as not to be noticeable.

Divisible Brood Chamber Hives not Equal to the Langstroth.

By E. D. Townsend, in "Beekeepers' Review."

Mr. Arthur Laing of Woodstock, Ont. asks: "Do you use a divisible brood-nest hive, in the production of comb honey, if so, kindly give me the dimensions of each section, and whether hanging or closed end-bar frames, similar to the Heddon, are used?" Yes, our comb honey hive is divisible, and is built the same as the Heddon hive; only the Heddon hive, like others on the market, was built to fit the 4¼-inch square section; or rather, the 4¼-inch square section was built to fit the hive then on the market. Our sectional comb honey hive was built to fit the popular 4 x 5 plain section; the fact is, we planned our super first, then built the hive sections for the brood nest identical with the super, for they are both the same, and interchangeable.

Were you to order the regular, deep super, listed in bee supply catalogues, of the 10-frame width, shortened up to

16 1-8 inches long, inside, it would be what we order for the bodies for both super and hive. The exact inside dimensions are, length 16 1-8 inches; width 14¼ inches; depth 5 5-8 inches. We buy them made without rabbet at the top. The frames are 5 5-8 inches deep, and 16 inches long, ouside measurements, closed ends. The frame-support at the bottom is a flat tin nailed on the lower edge of the end piece of the bodies, projecting in ¼ inch.

The inside furniture of the super is composed of six slats for the sections to rest upon; seven fence-separators of the L pattern, made for four rows of sections; and two extracting combs, with centre bars.

The slats that support the sections are 16 inches long; 1 3-8 inches wide and 3-8 inches thick. The super holds 24, 4 x 5 plain sections and two extracting combs; for this is our comb-and-extracted-honey-in-the-same-super arrangement. The frame that holds the the brood frames, with an additional bar in the centre, the same as the end-bor of the frame. Two super springs are used for compression.

The covers and bottom boards are two inches shorter than regular, and, of course, are 10-frame width.

Mr. Laing asks: "Would you use a divisible or a Langstroth brood-nest for your hives, if you had reason to believe you would use them for comb honey one year, and perhaps etxracted the next, or part for comb and part for extracted honey in the same apiary? I have been inclined to adopt the divisible brood-nest hive, but am not sure that I would be acting wisely in so doing. Will likely produce both comb and extracted honey in the same apiary; what brood-nest would you advise?

I would recommend the Langstroth hive in your case, and I think you would do better to adopt the Langstroth hive were you to produce comb honey exclusively.

BEES DON'T BREED UP WELL IN SECTIONAL HIVES.

There are some very nice features about the divisible brood-nest hive, but, as a whole, it is disappointing. The main disappointment comes from the financial side of the proposition; caused by the bees not breeding up sufficiently strong during the two months previous to our main honey flow in June.

For several years I have had, side by side in the same yard, sectional brood-nest hives and 10-frame L hives. It was a noticeable fact that larger new swarms always come from the L hive than from the sectional hive. It is likely a fact that the sectional hive had from fifteen to twenty per cent. less bees at the opening of the honey flow in June than the 10-frame Langstroth had. Both hives having the same breeding capacity in comb room, it is hard to tell why the bees in one did not use as much space for breeding as the other, but it is evident that they did not.

It is my opinion that there are few days during the year when bees will take care of all the eggs a queen will lay; that the shape and construction of the brood-nest determine, to a considerable extent, the number of eggs the bees will take care of and mature into bees; that the sectional brood-nest is so poorly adapted for this purpose that bees will care for only from 80 to 85 per cent. as much brood, and convert it into bees, as they will in the Langstroth hive.

THE LANCSTROTH FRAME A COMPROMISE.

I might mention here that the Langstroth frame is not entirely free from objections along the line of bees breeding to the very best advantage; for, with a frame like the Langstroth, with a comb-shape of 8 x 17 inches, with the eight inch measurement up and down, when the bee instinct would have the frame stand on end, instead, it is not conducive to the end that would cause the bees to breed to their greatest capacity. The Langstroth frame was adopted as a

compromise; its depth was in between the best, or deep frame, and the poorer or shallow frame.

The claim set forth for the adoption of the Langstroth frame was, it would do better than the deeper frame in the extracting super; and do very well in the hive body, as a brood frame; the one interchanging with the other, a combination affair; and we all know what combination usually means in mechanical affairs—something sacrificed In this case the sacrifice was in the brood frame; it is too shallow for best results in the breeding of colonies to their utmost capacity, but is not so noticeable as in the sectional brood-nest in this respect.

STANDING FRAMES ON END IN THE SPRING.

My ideal for a brood-frame would be one 10 x 15 inches; nine or ten of these frames to the hive; the hive so constructed that it could be used standing on end during the breeding season previous to the main honey flow, then used flat way down during the surplus season. A hive similarly constructed, with combs 15 inches deep and 10 inches wide, nine or ten to the hive, would be my idea of a hive that would conform to the instinct of the bees, so that colonies would breed up to their maximum numbers. The Jumbo, or Gallup, frame, which are 11¼ inches deep, are more to the liking of the bees, than the first two mentioned hives, and they result in breeding up rousing colonies of bees. For the early honey flow, 13 of the Gallup, or eight of the Jumbo frames furnish about the right number; although the largest swarms I ever owned were bred up in 10-frame Jumbo hives (Quinby). The 10-frame Jumbo hive being so large, the swarms are rather late in maturing, and for that reason are not so well adapted to a location with an early, short, surplus honey flow. For this reason I used them eight-frame width, with good results.

While I am satisfied that a hundred thousand bees will carry about the same amount of honey whether in two or three hives; and that it costs about the same in honey consumed to produce the bees in one case as the other, I do want the hive to conform somewhat near to the size of the colony it contains. This, the sectional brood-nest hive does not do; for, while the hive is of a 10-frame-L hive capacity, the swarm that this hive sends out are nearer a seven-frame hive size in strengh; consequently, the surplus honey stored is less than with colonies in single story hives

There is one place, however, where the sectional brood-nest comes in fine, and that is in the hiving of swarms in one section of the brood-nest, and immediately transferring the partly full supers of comb honey from the parent colony to the new swarm; the new swarm being hived on the stand previously occupied by the parent colony. Were I to produce both comb and extracted honey in the same yard, as Mr. Laing proposes, I would procure some of the half-depth supers, provided with extracting frames, and use them to hive swarms on. For this purpose the half-depth supers should be of the same size as the hive used; and that can be used for either hiving swarms, or for extracting supers.

THE SECTIONAL HIVE WAS A HOBBY, BUT IT FAILED TO "MAKE GOOD."

This sectional, comb honey hive was a hobby of mine; I had thought to build a hive superior to all others for the production of comb honey; a hive that could be manipulated better than a hive not divisible; a hive that could be made to fit any size colony in spring, no matter in what condition it may have wintered, without the handling of a single frame, and this expeditiously; a hive with which nearly all of the manipulation necessary to the successful management of a yard of bees for the production of a crop of comb honey, could be accomplished by the handling of hives, only. The pro-

duction of comb honey was to be a diversion from the main business, that of the production of extracted honey.

It was noticed from the first that the sectional-hive colonies did not go into the surplus flow in June so numerous in bees as did he single story colonies; but this hive was my "pet," and I found excuses for his deficiency; and, year after year, I would think that next year it would be different, that the sectional hive would retrieve its lost prestige, and show up at harvest time the equal of the single-section hive, but, thus far, with about 100 of them in use, for the last three years, they have failed to "make good."

It is not the intention of this article to give the impression that this sectional hive is a complete failure, but the results obtained with this hive, in comparison with the L hive are 15 to 20 per cent. less in surplus honey.

While I am satisfied that the deeper frame is more to the liking of the bees, and that they will take care of considerable more eggs, and bring them to maturity, in the deeper frame, than in the L frame, I also know that there are some good points in the Langstroth frame. For one thing, it is better for an extracting super than the deep super. Then, as I have said before, it will cost no more in honey to produce the bees to gather a certain amount of honey, in one hive, than it will in the other; but it will take a few more hives of the shallow kind, than of the deep to produce a given number of workers, so that, really, the only difference in cost of producion between the 11¼-inch deep frame and the Langstroth frame, would be the 10 per cent., or so, of extra hives and fixtures.

ADVANTAGES OF EXTRACTING-COMBS AT THE SIDES OF THE SUPER.

There is one feature of my comb honey system that has never been found wanting; and that is the comb and extracted honey in the same super arrangement. No one who has ever tried this super has ever made a failure of it, to my knowledge, and many have written me who have tried it, saying that all of their supers would be supplied with combs a each outside, as soon as the combs could be drawn out; and, if Mr. Laing contemplates the production of both comb and extracted honey in the same yard, I would recommend to him the use of the Langsroth hive, coupled with the comb honey super containing one extracting comb at each out side, instead of "bait sections" to start the bees to work in the sections. Then let him produce his comb honey during the fore part of the season, and his extracted during the last of the flow; by so doing, no unfinished sections will be left on his hands. Every thing will be finished the same season it is used, and in this way nothing but the very best comb honey will be produced. This super starts the bees to work in that part of the super worked last with the "bait section" method, where partly drawn sections of comb are given in the centre of the super, as of old. But drawn comb at the sides of the super, when given to the bees, starts them to work in the side portion first, and it is only a matter of a very little time before the bees are drawing out the foundation in the sections, clear across the super, and from this time on, all of the sections will be worked at one and the same time, thus insuring the very best possible work being done

MENDEL'S PRINCIPLES OF HEREDITY.

By W. Bateson, M.A., F.R.S., V.M.H. (Cambridge: The University Press. Price, 12s. net.)

The author tells us that the object of this book is to give a succint account of discoveries in regard to heredity made by the application of Mendel's methods of research. The theory of "evolution" and "origin of species" is so associated with the name of Darwin, whose celebration has so recently taken place at Cambridge,

that one is apt to forget that there were others who for more than half a century had worked on the same lines, prominent amongst these experimenters being such men as Koelreuter, John Hunter, Gaertner, Naudin, Knight and several others. In 1889 de Vries published a paper in which was foreshadowed a conception of unit-characters, which play so large a part in the development of what Professor Bateson had termed "genetics." It was in 1897 that Dr. Galton enunciated his law of heredity, which stated that of our total heritage we owe on an average one half to our parents, one quarter to grand-parents, one-eighth to great-grandparents, and so on. Although there was a statistical accord between Galton's theory and some facts of heredity, in the practice of breeding there were already known so many classes of uncomformable phenomena that his statement could only be looked upon as more an occasional consequence of the laws of heredity than one of those laws.

The author of this book is the first Professor of Biology in the University of Cambridge, and is known as one of the most distingushed of her men of science. He has for a long time put forward claims on behalf of the discoveries associated with the name of Mendel The new law of descent was made known by Mendel so long ago as 1865, and his work, forgotten for a time, was brought to light again in 1900 by de Vries, Correns, and Tschermak, and it is due mainly to Professor Bateson that the work of Mendel has served as an inspiration for recent research in heredity. The scientific world is now giving full recognition to this new law. There is no discovery in the princples of heredity that may compare with it since "The Origin of Species" appeared, and it is of infinitely more practical importance than that work. Mendel's law teaches that when pure stocks or strains are crossed it is found that certain qualities remain indestructible and appear uncontaminated in a definite proportion of offspring of all generations after the first. George Mendel, who was Abbot of Brun, made known in 1865 this new law of descent, which he had discovered by the cultivation of peas and other plants, and also by observation of heredity in bees and other animals. This forms the subject of Professor Bateson's "Mendel's Principles of Heredity."

The essence of Mendel's discovery is that of segregation. We start from a common fact that all the ordinary animals and plants began their individual life by the union of two cells known as gametes. Each of these is supplied with certain ingredients or factors, which may be either the same in both male and female, or different. If both parent gametes bring in a certain quality, all the daughter gametes have it, but if neither brought it in, then none of the daughter gametes have it. If it came from one side only, then on an average it will be present in half and absent from the other half.

Mendel's experiments with the edible pea (Pisum sativum) are well known, and serve as an example of the general principles of his teaching. This is what Professor Bateson says:—

"Mendel took a pair of varieties, of which one was tall, being 6 ft. to 7 ft. high and the other was dwarf, ¾ ft. to 1½ ft. These two were then crossed together. The cross-bred seeds thus produced grew into plants which were always tall, having a height not sensibly different from that of the pure tall variety. From the fact that the character—tallness—appears in the crossbred to the exclusion of the opposite character, Mendel called it a 'dominant' character; dwarfness, which disappears in the crossbred, he called 'recessive.'"

In the next generation the tall crossbred bore seeds which produced many tall dominants and some short recessives, in the proportion of three tall to one short, or, in other words, 75 per cent. dominants to 25 per cent recessives. It was found that if allowed to fertilise them-

selves the offspring of the recessives again produced recessives only, showing them to be pure to the recessive character, which in this case was dwarfness. But the tall dominants behaved differently, and when tested by a study of their offspring, instead of being alike, as were the recessives, gave plants which were tall only, and were therefore pure to tallness, and also plants consisting of both tall and dwarf, showing again an average of three tall to one dwarf. The ratio of impure plants to the pure plants was as 2 to 1. The total in the third generation consisted of 25 per cent. pure dominants, 50 per cent. impure dominants, and 25 per cent of recessives.

Since the fertilised ovum was formed by the union of germ cells having tallness and dwarfness as factors, both these elements entered into the composition of the original fertilized ovum or zygote. If at some stage in the process of germ formation the germ cells are bearers of either tallness or dwarfness, there must be a separation of the two characters. This dissociation of characters from each other in the course of formation of the germs is called segregation. As Professor Bateson shows, such segregation is one of the normal pehnomena of nature. Segregation determines the regularity perceptible in the hereditary transmission of differences and defines the units concerned in the constitution of organisms.

Another example will explain the discovery by Professor Bateson of the meaning of reversion, which has for a long time puzzled scientists and breeders. We know tall sweet peas breed true. Of dwarf sweet peas both Cupids and Bush breed true. Now Cupid crossed with Bush gives Tall. The explanation is of the simplest. Cupid is tall minus something; Bush is tall minus something else. In sporting out of Tall, Cupid did so by losing a certain factor which produced tallness. Bush, in arising from Tall, did so by losing another factor, which also made for tallness. When Cupid and Bush are mated together each supplies one of the missing links of tallness and both necessary factors for tall are thus present in the offspring, which consequently are tall.

Not only is the Mendel law applicable to plants, but it is seen that they and animals, as such, do not show any difference in their manner of heredity. Inheritance on simple Mendelian lines has been also studied in reference to the structural characters of man, cattle, the horse, mouse, fowls, pigeons, canaries, etc. Animals and plants in which colour characters have been shown to have a Mendelian heritance are fully described, and Professor Bateson illustrates this part of his subject with fine coloured diagrams, those of the lepidoptera, sweet peas, and Primula sinensis being particularly good, and clearly demonstrate the qualities to be emphasised.

Mendel's largest undertaking, besides the work on Pisum, was an investigation of the heredity of bees. Professor Bateson tells us that he had fifty hives under his observation, and collected queens of all attainable races, European, Egyptian, and American, and effected numerous crosses betwen these races. He made attempts to induce the queens to mate in his room, which he netted with gauze for the purpose, but it was too small or too dark, and the efforts were unsuccessful. Unfortunately, the notes he made of these experiments cannot be found, and it is supposed that in the depression which he suffered before his death they were destroyed. Professor Bateson visited the Konigskloster at Brun, hoping to discover some trace of the missing books, but was unsuccessful, although he saw the hives which had been used standing in their places.

In the book before us Professor Bateson demonstrates that Mendel, by the study of the simple character individually, showed that law and order reign in inheritance. Much has already been done in the study of the subject, and there is

every indication that through Mendel's law we are likely to have important discoveries in the breeding of plants and animals, as well as in the improvement of bees. Anything Professor Bateson writes on the subject is sure to command attention, and we are sure that the clearness and fairness with which he has treated it in his book will be appreciated not only by biologists, but also by others who cannot but find much to enjoy in its pages, for he has the happy knack of not only making his writings instructive, but also highly interesting.—B.B. Journal.

CAPPING MELTERS.

To use a hackneyed phrase, a "long felt want" in connection with apiary appliances has been some simple, and efficient means for separating honey from cappings, broken combs, etc., and at the same time obtain both the honey and wax in marketable form, in the one operation. A number of attempts have been made to get over the difficulty, and several machines designed to accomplish the work have been placed on the market, but in some way they have fallen short of what is required. The A.I. Root Co., with their characteristic **enterprise,** recently set to work to get out a more simple machine than any previously invented, and the combined melter and separator, which they claim to have worked with great success, is the result.

In the first place there is a boiler (double jacketed I presume) which can be made of any convenient size to suit one's requirements. Into this boiler the capping, etc., are placed, and the "blue flame" stove underneath furnishes the required heat for melting the contents, which then run through the honey-gate at the bottom into the "separator."

The "separator" as described by the Messrs. Root Co., is a five-gallon square can, enclosed within a wooden case, the better to retain the heat (it might be an advantage in this respect to have a couple of inches of sawdust packing between the can and the outer case)—the upper part forming the cover is, of course, removable. Near the bottom of one end of the can a piece of pipe is soldered, which extends upwards four or five inches before turning downwards. The principle involved in the separation of the honey and wax is that, the honey being heavier than the wax, settles to the bottom, so that the former only can pass out through the pipe while the wax rises to the top, where it is allowed to accumulate until it reaches the level of a trough near the top of the can, through which it flows into a separate vessel.

The honey after running from the separator should pass through a cloth strainer into some convenient vessel, where it should be allowed to stand for a time for the scum to rise—after skimming the honey will be ready for tinning.

The whole fit out is not a costly affair, as the boiler will serve as an uncapping can, while the stand and outside wood covering of the separator can be made by the beekeeper. The boiler stands on two pieces of strap iron nailed to the uprights of stand.

Though I am of opinion that honey heated to the melting point of wax (nearly 150 degrees Fahr.) loses much of its delicate flavour, still, with care, it will be a good marketable article of perhaps second grade, and by the simple process described will add to the profits of the apiary, instead of so much being wasted as at present.—"N.Z. Farmer."

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CORRESPONDENCE.

Tyndale Apiary,
Clarence River, N.S.W.

W. Abram, Esq.

Dear Sir,—Yours of the 26th inst. to hand, for which I thank you, re a honey exhibit for the next Sydney Show. I regret to say that I cannot compete this year. The season has not been a satisfactory one with me, and the honey that I have extracted is not up to the standard for show purposes. If I had anything like what I exhibited at the last R. A. S. Show, I might have considered the matter of exhibiting again this year. However, I trust that you will have a successful show in the honey line, and that there will be keen competition. I quite agree with you in endeavouring to get none but the bona-fide beekeepers to exhibit in the honey pavilion. To my mind, it is an imposition for said shopkeepers to exhibit. I will be unable to attend the R. A. S. Show this year.

Splendid rain has fallen here during the past six weeks. Bees have built up wonderfully, and are now in excellent condition, in fact a number of stocks have cast off swarms. The only flow that I expect prior to the winter is from ti-tree; the honey from this source is generally dark and strong-flavoured, also granulates very quickly. This locality has failed considerably to what it has been for honey production, as a result no doubt to the persistent mania for ringbarking the forest country, the soil of which is of a sandy nature, and the ringbarking of such tends to ruin same for grazing, as during during dry periods this land cannot retain moisture. Hence the loss, a double one, i. e., the beekeeper loses the trees and the grazier the grass. Still the ruthless ring-barking goes on, and will continue to do so until blocked by legislation. Have you ever had a flow of nectar from tallow wood, or more commonly known as yellow jacket tree. I may say that this particular tree blooms profusely here every year, and in all my experience I have never ascertained the bees working on the blossoms, and during seasons that were highly suitable for nectar secretion. Perhaps the climate may have something to do in the matter. If you have had a flow from this source, you may let me know through the "A.B.B" as to the colour, flavour and density of same.

Trusting that your bees are doing well, and wishing you every success.

I am,
Yours faithfully,
W. J. BENSON.

[I have no tallow wood trees in this district. Can some others give us a reply to the above matter.—ED.]

Mr. E. J. Thompson writes: I notice in the January A.B.B. that Mr. Alexander is accorded the honour of getting over 36 tons of extracted honey from 750 colonies of bees in one season. Well, the season before last we took 5 tons from 33 hives; that would be at the rate of about 120 tons from 750 hives, and I think that beats the Yankee dead. We had no honey last season, and not much this season."

[What a pity not every beekeeper can have the same results—and every year, too.—ED.]

Mrs. J. Bailey writes :—"I am writing to you as you are an authority on bees. I keep a few hives of the common brown bee; but for two years the bees have had something wrong with them. Many of the young bees die in the cell just when they are beginning to turn brown. I do not think it is foul brood, as I under-

stood that destroys them in the grub stage. I think if it was foul brood it would soon kill them right out; but they seem to do fairly well. They fill the supers in the honey season, but they rarely swarm. Will you kindly tell me what you think is wrong with them. I saw in the T. & Co. Journal a report of a lecture you had given about bees. You said you would cure foul brood. Would you kindly let me know what disinfectant to use in case it should be foul brood my bees are suffering from. Trusting I am not troubling too much, etc."

[I think your bees have foul brood. When the unsealed only is attacked, it is in the first stage of development and easy to cure; but when the sealed brood gets affected, it is in a more dangerous degree. A good honey flow is about the best to happen to keep them going; but it is not effecting a cure; only preventing the early ruin of the lot, and thus diseased colonies may linger for years ere they succumb. As it is a brood disease, it is necessary to remove every bit of comb in the hive, and even changing of the hive is advisable. Then insert frames with starters of foundation only, and generally the disease disappears. Burn or boil into wax all the other combs. Burn frames, and wash hives with a strong solution of soda or salicilic acid, to destroy the spores that may be in the crevices, etc. A clean sweep is the best remedy.—Ed.]

There are numerous other correspondences referring to losses of bees. But to publish them would not do anyone any good. I am sorry, indeed, that so much distress is still with the struggling beekeeper. But perhaps there is something wrong in the management, and for that reason beekeepers should insist on the Government to help them. It is impossible for one who has to make his living by beekeeping to aid and assist all others in trouble. Take a firm stand and have a Government advisor appointed.

Eugowra.

To the Editor "A.B.B."

Dear Sir,—I am sorry to say, from the way the bees are doing at present, I cannot see my way clear to ask for space to exhibit honey at the R.A.S. The past twelve months has been a complete failure with the bees in producing honey. I have none in stock at present, and am doubtful if I will have any at Easter time.

I quite agree with your suggestion that beekeepers in the country should embrace the opportunity and send as much honey forward to the R.A.S. as possible. The more important we can make the beekeeping industry appear, the more likely our wants will be attended to. Should things improve by Easter I will try and get some in.

W. NIVEN, Sen.

[Inadvertantly left over last issue.—Ed.]

Aberdeen.

To the Editor.

Dear Sir,—Noticing in the "Bee Bulletin" where you would like to hear of a good ant banisher, I think H. G. Collison's Ant Exterminator the best ant banisher of all. It only takes one dose to settle a very big nest in a very short time. I have used it often myself, and I have no fear in advising all beekeepers who have trouble with ants to use it.

Yours faithfully,

R. BENSON.

[Thank you for your disinterested information, which I hope will be useful to us.—Ed.]

When you want Honey Labels send for Samples to the "Bee Bulletin" Office.

THE USE AND ABUSE OF COMB FOUNDATION.

A Plea for Comb Honey with only a Minimum of Foundation.

BY F. GREINER.

After many years of producing comb honey, of reading how others are doing it, and how the grading is being done, giving due consideration to all—producer, dealer and consumer—and also studying the grading-rules, I have come to the conclusion that we have been catering altogether too much to the demands of the dealer or the man who has it to sell. I observe that, if comb honey is to pass as "fancy," the comb must be attached to all four sides of each section, and sealed to the wood. The better this is accomplished, the greater is the value of the product.

However, it is a fact that the consumer rarely demands such honey. I have placed gilt-edged comb honey in the hands of very exacting people at a fancy price—honey which was attached to the tops of the sections with only two little legs at the sides, none under the bottom, and yet the people who bought this honey were perfectly satisfied with it, although some of our producers of "fancy" comb honey would pronounce it only "very poor stuff." The producers of comb honey who are catering to the wishes and demands of the sellers only, are filling the sections full of comb foundation, running the sheets on with melted wax, sometimes on three sides of each section. Some are making use of split sections, which enable the user to get his foundation attached to three sides; but in order to prevent "buckling" they find it necessary to make use of brood foundation. When a consumer gets such honey he must dig it off from each side of the midrib; and how that can suit him, any producer can easily imagine. If these sections with the honey dug off and foundation still intact could be saved and gathered up for a repeated and perhaps indefinite use it would mean a great saving; but, of course, this is out of the question, and thus the only reasonable excuse for the method falls to the ground.

The consumer, for the purpose of eating, would call such a product "very poor stuff" indeed as compared with what our forefathers produced in soap-boxes and the like; and the wonder is that those who put this most inferior article on the market have the cheek to speak about about their practice in public. It would seem to me that their love for money has befogged their brains, for they want to reap where others have sown. Comb honey has as yet a good reputation, and only on the strength of this these people are obtaining a good price for their poor output, although the seller may pat them on heir backs and compliment them for their great (?) achievement, and buy their product before it is off the hive.

Comb honey, if it is expected to withstand shipping over our railroads, must of necessity be reasonably well-built out, and each comb must be attached to the sides of the section. This much I admit; but it is not necessary to meddle with the inside of the flakes to any extent. If we had a practicable method of obtaining naturally built new comb in sufficient quantities to start all our little boxes with we might get along without any section foundation.

Years ago our forefathers raised tons of comb honey without it, and we could do so again; but we of to-day find it handy now to use artificial midrib. Indeed, we regard its use indispensable—at least when used as a small starter, and of the lightest-weight section foundation. All things considered, it is just as well to use the artificial starter, for even the natural new comb has its draw-

back. It has to be dipped into melted resin to fix it in place, and this leaves a hard substance at the place of detachment, which does not look nor is as well as a small foundation starter fastened in by the hot plate of a foundation-fastener.

MORE HONEY IN FULL SHEETS, BUT PRODUCT NOT AS GOOD.

I am sure I might have made a great deal more money had I used full sheets of comb foundation in my sections for the past 25 years or more. But as I did not wish to injure the reputation of comb honey I have refrained from doing so; for even the very lightest comb foundation leaves a hard distinguishable midrib. Many a purchaser may not even suspect that an artificial centre is used in the section honey he has bought; but that does not alter the fact that the foundation does leave a hard tough substance, different from real virgin comb; and consumers who know about it can not possibly be satisfied with it. We are not, and a few others of whom I know.

A number of years ago I had been allured into using half-sheets in all my sections. That same year I happened to purchase 20 or 25 cases of comb honey of a neighbouring beekeeper who had used only very small starters. Mrs. G. quickly observed this, and she suggested that I had better reserve for our own use a few cases of this honey we bought, selling all of our own product, which I did to our satisfaction when it came to eating the honey.

Really good comb honey can not be produced with full sheets or half-sheets of comb foundation, no matter what the dealers may have to say. It is very true that, on an average, the combs are not attached quite as solidly, nor sealed clear to the wood as uniformly, with small starters as with full sheets, but particularly so when split sections are used; but from the commercial standpoint there is no need of sections being filled brimful. Section honey ships very well if the boxes are reasonably well filled; The sealing clear to the wood is not only not necessary, but is undesirable. Better by far have the row of cells bordering the wood unsealed, and free from honey. That a merchantable article of comb honey may be produced without full sheets of comb foundation my 30 years in producing comb honey proves. I believe I have had as few smashups as any other producer.

The comb honey producer who uses only small starters will occasionally have a few cases containing honey very poorly attached to the wood. This seems unavoidable. Sometimes we miscalculate the duration of our honey flow, and give too much room. It happens even when we make no mistake. But what of that? Such honey always finds willing buyers from near by, providing we offer it for what it is worth, selling by weight. We have never enough to go around. During the honey season my sections are nearly always well filled, and attached on all four sides. Such as are not attached to the bottom, but have the other three sides securely fastened, are placed topside down in the shipping-crate. Thus they carry with safety. As long as our honey is bought by the pound there is no injustice to the purchaser if the sections are of light weight. He pays only for what he gets; and if the honey itself is good there is no reason for fault-finding. The only loss, in fact, hits the shipper, inasmuch as the cost of the shipping-case is the same whether the 24 sections contained therein weigh 18 or 25 lbs.

UNSEALED CELLS NEXT TO THE WOOD.

As to the number of unsealed cells admissible, a word might be said. Cells containing honey should be sealed. This is greatly to be preferred. However, if there are a few such cells un-

sealed, and the honey is thick enough not to run out when turned on its side, there will be no harm in crating it. Even should there be a dozen such cells on a face, few consumers will object. Here the man that does the crating must use good judgment, as iron-clad rules can nat be laid down.

THE QUESTION OF GRADING HONEY FOR EXHIBITION PURPOSES.

Now we are coming to an interesting point, of the real merit of comb honey as exhibited at fairs. Comb honey for exhibition purposes must be perfectly clean, the comb as well as the wood. This is conceded by all. The boxes must be well filled, which is also conceded. Further, they must be uniformly filled and sealed all around with no popholes anywhere, not even at the corners. All worker comb looks better than drone comb or worker and drone comb mixed. To attain this greatest perfection is possible only with full sheets of foundation, and the split-section man has the better of every other competitor, although his honey is the poorest product which it is possible to produce.

If the exhibitor were obliged to show just how his sections were fitted when given to the bees, and this be made a prominent feature of his exhibit, the judge would be in better condition to judge who deserves the greatest credit. He ought to have the privilege of carving several sections of each exhibit to satisfy himself that no fraud is praticed. The man who produces a fine article of comb honey without comb foundation deserves greater credit than the one using full sheets, although in point of filling and in uniformity his exhibit may not be equal—in fact, can not be—to that of his competitor using full sheets. It is no great trick, and does not per se speak of mastery to produce perfect comb honey with full sheets of foundation. It is much more so to produce an article of which W. Z. Hutchinson says he would give five cents more a pound for it for his own use.—"Gleanings."

CAPPING HONEY.

Elmer Hutchinson, in the "Beekeepers' Review" for July, among other practical hints, mentions the honey rost in the cappings after draining them as much as possible. I, too, wrestled with that problem, and tried to melt these cappings, without the addition of water, by putting them in vessels and setting these in hot water, but the honey was practically unmarketable. For the last two years my solution has been to put the fairly well-drained cappings through a large solar wax-extractor. This, if proper attention is given, leaves a very marketable honey. The capping-melter, I hope, will be still better.—"Gleanings."

HONEY.—

Choice quality continues scarce and is selling at 3¼d., with an occasional lot at 3½d. lb. Medium quality is worth 2½d., to 3d. per lb.

BEESWAX.—

Fair demand. Best bright is selling at 1/2½ to 1/3½ lb., and dark at 1/0½ to 1/1½ per lb.

Highest market prices obtained for Honey and Beeswax by

PRESCOTT LIMITED.

COMMISSION AGENTS

336 & 338 SUSSEX STREET

SYDNEY

Calendar for January & February.

Generally during these two months the most honey is being gathered, and the stronger the stocks are when there is anything to be got, the more they will store. Remove the surplus stores as soon as most of it is sealed and extract, replace empty combs where full ones are taken.

Section and comb honey should be well filled and sealed before removing; but should not be left too long finished.

Failing or inferior queens are to be removed now or in March, to ensure the best conditions for next spring.

Very old combs should be exchanged. A comb is getting out of use when it appears black by holding it against the sun.

Editor W. A.

ISLE OF WIGHT DISEASE.

Unfortunately this has worked much greater havoc in England during the past two years than is usually supposed. There are several districts in England in which the bees have been practically wiped out by this disease. Up to the present no reliable cure has been discovered for a stock which has once become affected. The experience in the Isle of Wight, however, shows that bees can again be kept with success in the same area, and in the same hives, if the inside of the hive is disinfected with a hot flame, the old combs and quilts destroyed, and a short interval of three or four months allowed before starting afresh. The Board of Agriculture and the British Beekeepers' Association are as much in the dark upon the matter as your correspondent, Mr. Stapleton. The apiarist who has had most experience is Mr. H. M. Cooper, of Thorley, Isle of Wight, and his chief hope is a race of bees who are immune from its ravages. —"Irish Bee Journal."

Baits—Where should they be in the Super.

A bait is to coax the bees to store honey in the super before the lower hive is so crowded that they are forced to move upward. The thing desired is to get the bees at work carrying the honey in the brood-nest upstairs. The baits placed in the centre of the super are more quickly occupied by a good force of bees than those placed in the corners. If the bees start with a rush, the speed with which they carry in the honey will fill the super clear to the edges and corners before they think of finding a place for the honey more nearly over the brood. If the flow is good, bees are not in a mood to leave the corners unfinished. But the flow in the best of seasons is not good all the time; and if one has enough baits it is well to put one in each corner with one or two in the centre.

Baits—that is, empty sections of comb from the previous year—should be used only the first of the season; for if coaxing is needed later with some hives, unfinished sections can be taken from others. In taking off honey one always has some that are not finished; and it is folly to have a super on till every cell clear to the corners is capped if the flow is at all slow. In a fast flow the bees will finish it complete, any way.

I would say, put what few baits are to be used in the centre, unless you are convinced that they will be occupied just as quickly if put in the corners.

HONEY.

If you have 1lb. sections or extracted Honey for sale, please communicate with

TIPPER,
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ITALIAN QUEENS.

Gold or Leather Colour—from Imported Mothers.

BRED FOR SUPERIOR QUALITIES AND PURITY.

The First Italian Bee Farm in Australia, and the Best for the Supply of Queens, Hives of Bees, Swarms, Foundation, Implements, &c.

Winner of National First Prize for Best Bee Farm of a Hundred Hives of Bees and Over. Also winner of most prizes at the R.A.S. Shows, Sydney.

QUEENS—Untested, 5/- each.

Tested, ...	one 10/-	three 25/-	six 45/-
Select Tested	one 15/-	three 40/-	six 70/-
Extra Choice ...	one 25/-	three 60/-	six 105/-

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W. ABRAM & SON,

ITALIAN BEE FARM,

BEECROFT, Near SYDNEY.

ESTABLISHED 1881.

P.S.—My knowledge and experience of 40 years practice enables me to breed and supply Queens Superior to Any, possessing the Most Desirable Qualities combined. Desiring to maintain that High Reputation, I again submit for your consideration the fact that I can supply to satisfaction, if you give me description of your requirements. Thanking you for past favours.—I remain, yours truly, **W. ABRAM.**

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22nd to 30th MARCH, 1910.

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POULTRY	February 25
DOGS	February 28
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