# The Australian bee bulletin. Vol. 18, no. 5 August 31, 1909

West Maitland, N.S.W.: E. Tipper, August 31, 1909

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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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MAITLAND, N.S.W.—AUGUST 31, 1909.



## N.S.W. & COMMONWEALTH BEEKEEPERS' UNION.

### DEPUTATION.

From the beekeepers' point of view Forest Reservation is of very immense importance. Thus it happened that whilst the matter was sent to press re circular on the subject, the president noticed in the daily papers of Friday, the 30th inst., that the second reading of the Forest Reservation Bill was set down for Wednesday, the 4th of this month. He called a meeting of the Executive for Monday, the 2nd, and with the exception of Mr. Parry, who sent an apology, all were present. It was decided that a deputation wait on the Minister next day at Parliament House, to urge the beekeepers' interests. Mr. Hunt, M.L.A., introduced the deputation, and the president and others of the executive expressed their views, and received a very sympathetic reception. The president also asked that provisions be made to allow beekeepers to lease a sufficient area at such reserves, as thereby the State would obtain the best police ing force to protect such reserves. He also pointed out that it would be to the interests of the State if in districts, in which the trees suited better for honey production than for agriculture or pastoral pursuits, ringbarking be restricted, it being detrimental to beekeepers and beneficial to none to destroy the trees.

The Minister, Mr. Perry, replied that over 4,000,000 acres are being reserved for forest, and that permission for bee licenses are a matter of regulation and obtainable on all reserves, and that ring-barking will be restricted on all new leases. By request, the Minister also promised that he would see the Minister for Lands to aid and assist beekeepers in regard to honey-producing timber reservation for bees.

In connection with the above, it may be mentioned that Mr. Brogan, Attunga, sent the president a letter, published herewith. The president wrote at once to the Under-Secretary for Lands, and pointed out the injustice done to beekeepers by allowing box trees to be ring-barked. The Under-Secretary has now informed the president and Mr. Brogan that the sale of the lease has been withdrawn, and that a condition will be added that yellow box 8in. in diameter, 3ft above ground will be reserved for bees. To this the president has replied that all box trees, white, yellow, etc., should be preserved irrespective of size, if they are 25 to 30 yards apart from one another, as in rough and stony ground these trees do not attain very great circumference, but bloom when only a few inches in diameter. If this latter condition can be obtained there will be great rejoicing, and beekeepers may be thankful.

The article on "Forest Reservation," by Mr. O. A. White, will be read with much interest, I am sure. It depicts the state of affairs excellently, and with the editor's thanks, he would be very glad to receive further contributions from the same penman.

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In order to show readers that beekeepers' interests are recognised, I now cite the copy I sent to the Under-Secretary for Lands on receipt of his letter informing me that the sale of the lease had been withdrawn with the view of inserting a new condition. I replied:

The Under Secretary for Lands,—Sir, —In receipt of your letter I take this opportunity to thank you for the consideration given to the beekeeping industry.

To assist this pursuit still further, I venture to suggest that all box trees, white box, yellow box, etc., if not closer than 25 or 30 yards from each other shall be preserved.

This would help beekeepers on rough ground where trees do not grow very circumferent, but bloom when only a few inches in diameter.

To this I have received the following reply:—"I have the honour to acknowledge receipt of your letter, suggesting that all box trees be preserved to 25 or 30 yards apart, irrespective of kind or size in respect to improvement lease, Block 706, Land District Tamworth, and to inform you that the matter has been referred to the district surveyor for urgent report. A further communication will be made when the decision in this case has been given.

¶No further comments are needed at present.—Ed.

## MEETING.

At a meeting of the Union's Executive, held on the 23rd, all were present. Considerable correspondence was gone through, some of which appears in this issue. The president and secretary were appointed to complete the arrangement re a few lectures to be given, and the names of lecturers were decided on. The president was elected chairman at all such lectures.

The president said he had sent an advertisement to the A.B.K. on his own initiative. This was heartily approved of; but it delays action to be taken re ring-barking in order to give all beekeepers a chance to support our aim. It rests now with beekeepers either to assist their cause or to be lookers-on. The stronger the Union the more can be accomplished.

Owing to the lateness of the hour a sub-committee was appointed to consider other incomplete but important matters appertaining to the industry.

Mr. W. Niven writes: The Forestry Bill the Hon. Mr. Perry, Minister for Agriculture, has before Parliament, if carried out as he intends, should meet with the approval of beekeepers. As much of the Bill is to be carried out by regulations, we as beekeepers should try and make our wants known. Members of the House will then have an opportunity to make the Bill as far-reaching for all classes as possible. The all-important part of the Bill to beekeepers is the reservation of trees producing the best honey, and afforestation of those kinds most valuable to bees. Sites for bee farms is another important matter for consideration. These should be leased at a moderate fee for a number of years, with a prior right of renewal. The next important item is for as many beekeepers as possible, from every part of the State, to agitate and make known their wants, and so try and make the beekeeping industry flourish, by doing their utmost to preserve old honey-producing trees as forest, and reserves must be saved if possible.

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## UNION CORRESPONDENCE.

Mr. J Brogan writes: I am in receipt of circular of the Commonwealth Beekeepers' Union, which I am glad to hear is now formed. I enclose postal note for 5/- for my subscription for current year, also a few stamps to defray any postage. Of course I don't yet know the full routine of the Union, and send subscription through you, and ask you to kindly place me on the list of members. I told you of the ringbarking that will affect my honey flow, and enclose particulars of the improvement lease, also the positions of my apiaries in relation to same; also position of another point where a site exists for an apiary. If you think it would be any help to my case to protest against the ringbarking of yellow box, I would be much obliged if you would have same done by writing to the Under-Secretary for Lands, either on my behalf or in the interests of the beekeeping industry. Kindly put me down as a subscriber to the "A.B. Bulletin."

Mr. W. J. Benson writes: Yours of the 24th came duly to hand. I am pleased to hear that the Beekeepers' Union is now an accomplished fact, and I wish it every success. If the industry is to be made a profitable one, it will be by the united efforts of practical beekeepers. I am willing to do all I can in the interests of the Union, and if convenient will make an effort to attend some of the meetings. A matter that I would like the Union to take in hand at its earlest opportunity, is to approach the Government with a view to having discrimination shown to beekeepers in regard to ringbarking through out the State, where much valuable country to beekeepers is year by year being practically demolished. If no united effort is made in this matter it only means that within a short period the beekeeping industry, with most of us at all events, will be cast to oblivion. In this district, for an instance, I know of 1,500 acres of splendid bee country that has just been totally ringbarked, and likely to continue until the whole country is ruined from a beekeeper's point of view. However, this is matter that I will deal with later on, and I sincerely hope to have the united assistance of all interested for the welfare of the industry. In reference to the question you ask me re a lecture on bees, in reply I don't feel disposed at the present juncture to do so, although I have made a life study of bees for pleasure and profit, still I think that this is a matter that justice could be done by an older head than mine. I suggest yourself. In regard to the next question, I am pleased to hear you intend having competitive writings in the A.B.B. As one of the judges I will act to the best of my ability.

Mr. V. E. S. Tompson, Windeyer, writes: I am glad to see that the Beekeepers' Union is going to try and do something towards stopping the ring-barking of our forests. It is a thing I have long wished was stopped. When one travels through the State you can see the timber destroyed, not by the acre, but by the square mile by the sheep-owners, who hate to see a green tree, which is the beauty of the land we live in. I am sorry I cannot attend the meetings of the Union, as I am so far away. I hope all those who can will do so, and also I hope that none but beekeepers will be allowed to carry out the business of those who are in office. I think that an over-sea market would be a good thing for the beekeepers of Australia.

Mr. F. J. McIlveen, Elsmore, writes: Your favour of 24th inst. to hand. It is true that I have not joined the Beekeepers' Union, not because I was not in sympathy with such a worthy institution, but because I was doubtful which of the rival Associations to support, seeing that good men were on both. Please find enclosed postal note, value 5/0, as subscription. I thank you for the honour you do me in asking me to give a lecture. It is, or it should be, true that I have some literary qualifications, but as for the practical—that is extremely doubtful. However, if you want me I shall be only too pleased to come, providing of course that it is possible for me to get away. With regard to the A.B.B., I write regularly for two other papers, but will try and send you something occasionally. As for acting as one of the judges in a prize competition, here again you flatter me too much; but if required I will help in this as in everything pertaining to the industry.

¶Thank you, Mr. McIlveen. I shall be pleased to avail myself of your help in various respects, and it is the right way you look at it—for the industry, not for personality.—Ed.

F. W. Fromm, Williamstown, S.A.: So far we are having it very wet; we had heavy rain to-day. The blue gum is just coming out in flower. I hope I will soon be able to rear some young queens. I am well satisfied with them so far.

W. Niven, Eugowra: I herewith enclose circular (forest preservation for bees and timber.) I am in favour, and I suppose every beekeeper. The establishment of office and stores for the disposal of honey—I look upon this question as a difficult one, and think it would be better not to think of starting it till the end of the season. If the above establishment was started it would be a good thing for beekeepers to have a good stock of honey on hand, that a supply would always be coming forward when required. Getting the right man to take charge, that means either success or failure. Re Exportation of Honey—if we can obtain 3d. per lb. for our best honey here, it will pay as well as sending it away. It is a good thing to move in the matter, and if we can get a better market, try for it. I do not feel very highly impressed with the English market.

W. Niven, Eugowra.—We had a bad autumn for honey, and a wet, cold winter. The last two or three days have been fine; the bees have started to carry pollen in at the home apiary. One hive very bad with paralysis, and at an out apiary a large number of stocks have died out. The other apiaries appear all right.

E. F. Hunter, Trunkey, Aug. 17, 1909.—I am to-day in receipt of yours of 14th re lectures. Im afraid not any of Trunkey members are competent enough. Majority of members would like me to go, but I have had no experience of public speaking, and although nothing would delight me more to see our Union produce some fine results, I'm afraid we country people will have to let our brothers of the city or vicinity do the talking. I might say that since the forma-

tion of Trunkey Bee Farmers' Association we have kept the matter of ringbarking very prominently before the authorities, as the local Land Board, I've no doubt, can testify. The result of our persistent effort in this direction has been astonishingly successful. I say astonishingly, because up to recently no manner of man has had the audacity to question the right of the squatter to murder everything in the shape of living timber. The bee farmers of Trunkey have questioned that right, with result that we have got one tree to every square chain, that is, 10 trees to every acre. You will observe that it is 10 trees to EVERY acre, also special leases are to be made available of 320 acres, and although only seven of these leases are in progress of being put out, we feel assured that others will follow. We understand that the ringbarking on these leases will be carried out under conditions which will be eminently satisfactory to the beekeeper, so therefore we are not doing too badly. The local beekeepers association has been been making strenuous efforts to have the apiarist considered by the governing bodies as producers. At present beekeepers, through their own neglect, are looked upon as loafers, pure and simple—we are not even a "necessary evil." We pay no taxes, therefore have no status. Why should not we be compelled to pay for our pastures? The grazier pays for his, and he is therefore allowed to destroy timber, in order to promote growth of grass. (We do not say how long the grass "promotes," or how much he covers up with fallen or dead timber) but he is recognised as a producer, and, of course, rightly so, is granted a status, which enables him to demand his right. The seven special leases above referred to are ostensibly "Bee Leases," but the Government will not know them as such? Why? Because we have no standing—we are not recognised as producers, and therefore the Government know us not. Every form of lease or other tenure compels ringbarking under conditions quite unsuitable to apiarists, therefore it seems very evident that we must by combination and united effort acquire some standing which will enable the beeman to ask that some part of the globe, at all events, be exempt from the ringbarking mania—ringbarking is just a mania, as instanced by one man in this district. He ringbarked everything out of a face, and now, if he wants a straight, green stick, for even a broom handle, he has to get it off another person's land. Surely that is madness. The local association has reported to the Minister for Lands the unsatisfactory way in which the regulations in connection with ringbarking are carried out on local improvement leases. The Department sent out an inspector, and we bee people in this vicinity are congratulating ourselves that unity is strength; for we are assured now that we will get the "ten to acre." I cannot understand why the sheep-farmer should be so antagonistic to bee culture. Do you?

¶The beekeepers' interests have not been brought prominently before the general public and the authorities, thus their claims, if any, pass unnoticed. Now timber is disappearing fast, which arouses not only the beekeepers from their slumber, but shows the sensible public how not to do it. The Government is willing to assist beekeepers, vide report re deputation and Mr. Brogan, mine and Department correspondence, but beekeepers must be united, and let the Government know what we want. That is now being done, and I have no doubt but what conditions may be inserted in new leases which will satisfy beekeepers and others alike. My motto is: "Live and let live. Peg away."—Ed.

Mr. E. F. Hunter, Trunkey: If permitted, I intend to have something to say in next month's issue of A.B.B. relative to departmental concessions allowed and granted to graziers. I recognise, and I think every beekeeper who reads, must

acknowledge that you have been our chief in matters concerning apiculture, that you have devoted time and money to the advantage of the industry is so apparent to beekeepers, that I reckon it is up to us to assist you in every way possible, and the industry "should re-imburse you," is a question I'll take up if I remain long in this State.

¶Shall be very glad to receive your further contributions with thanks.—Ed.

## JUDGING.

(To the Editor.)

Sir,—In your issue of July 31st, Mr. J. F. Munday has raised the question of awarding prizes to exhibits of equal value, and asks why we should rank lower than the other in the awards? The editor in his footnote said "the matter should engage the beekeepers' attention to its full extent." So far as the person acting as judge is concerned, I don't think it needs much consideration. There is only one course to pursue by an impartial judge, and that is, to give equal awards—that is, equal firsts, or equal seconds, as the case may be.

I have judged at a large number of Shows, both as a private individual and as Government Apiarist, and this question first confronted me very many years ago. I had no hesitation as to what I considered the right course to adopt, and gave equal awards. Some little time ago I was judging, and the same thing cropped up. I pointed out to the steward two exhibits and said, "equal firsts." "Oh!" said the steward "you cannot make that award; you must give one a first prize, and the other a second." I simply asked him "whether he or I was judge?" "But," said he, "we haven't two first prizes to give." I answered, "that was none of my business; all I was there for was to judge the honey to the best of my ability, and I found two exhibits of equal merit, therefore, I could not rank one below the other; it is the committee's business to arrange for the prizes." The steward appealed to the secretary, who took my view, and acted accordingly. I invariably act in this manner and if my experience will assist you in the matter, I shall be pleased. I am, etc.,—I. HOPKINS.

## UNIONISM OR CO-OPERATION—WHICH?

* * * * *

J. J. PARRY, ERINA.

The trend of modern farming is towards small farming, rather than large scale agriculture. Small farms can well be worked without much hired labour—the farmer can give his main energies to farming, while controlling, without personally working those subsidiary channels into which co-operation enters. A small agriculturist has a small area on which to concentrate his efforts.

Now the opposite is taking place in the towns and cities to what is going on in the country, in spite of trades-unionists. The tendency towards concentration into large establishments in towns of small businesses and plants, which are not conducive to social advancement or peace; while greater pressure is being brought to bear on holders of large estates, by means of legislation, in the country. I recognise the benificence of the principle of trades-unionism in the past, but evolution never looks backwards, but forward. Of course there is nothing perfect, but co-operation is better than any other agency I know of to make man feel the immediate results of savings. Co-operation makes capitalists of wage-earners, as it were, and unites harmoniously labour and capital. While trades-unions are fighting and bargaining bodies only, co-operation is an idea which reduces expenses and stimulates self-help—an association of the weak, who gather together and try to lift themselves and others out of weakness into

strength; also it keeps its ranks open to the weaker brethren, who are still without, and never pursue strength at the price of their injury, or neglect; and may get better returns for a man's labour, without necessarily raising the price to the consumers. The superiority of co-operation as a business principle has in many cases been demonstrated. It is believed by many that the inherent advantages of co-operation will sooner or later make themselves felt. The slowly increasing success of co-operation will finally gain industrial supremacy. The interests of co-operation animates men, and produces excellent effects on their character; it makes them dilligent, frugal, and intelligent, considerate to the rights of others, as well as their own. Co-operation would do away with many of the evils under which the farmer suffers. And its only by co-operation that you can return the energy to the region of its origin. Co-operation can be relied upon to secure a betterment in market conditions, and until co-operation becomes possible, beekeeping especially will still be uncertain, and end in failure to many.

## FOREST PRESERVATION.

O. A. WHITE.

I vote "For."

Certainly! Many reasons dictate this as a necessity; and to do justice to the subject by treating it fully, would really require a special pamphlet.

Forestry indifference and indiscriminate tree destruction in many countries in the past, has now rendered imperative the creation of special departments to cope with the evil. Re-afforesting on a gigantic scale has to be undertaken, and we have now to confess that Mother Nature, whom "Know-All" man has so wantonly outraged, knew best after all.

Owing to depletion of immense timber tracts in other countries, trees existing here should possess a peculiarly significant value, and be jealously guarded while we have them. We should all endeavour to conserve them for rational use and protect them from greedy exploiters.

Anyone familiar with many agricultural and dairying districts in New South Wales and Victoria, on witnessing the awful arboreal desolation, the general treeless wastes, must, if he possesses any sense at all, be compelled to compassionate his fellow man-farmer who harbours such asinine ideas and methods. Crass stupidity is too mild a term to apply to them.

When you behold a man who, on getting possession of one, or three, or ten hundred acres, considers it his bounden duty to oust every tree on his property, you begin to feel sorry—for him, and then for the tree.

"Ringbark! burn off! Ringbark! burn off!" that is the gospel he lives up to.

To-day these gaunt spectre-trees: ghosts of a living, useful past, are mute, but eloquent testimonies to the sad and silly policy of these ruthless destroyers.

Now that the damage has been done, the bitter lesson is being brought home to them. They find their paddocks windswept, and the grass growth about forty per cent. below that in paddocks well sheltered. They have now no timber belts to meet the fierce scorching winds and temper them into mildness. The greedy landholder, whose avariciousness would not tolerate a few overhanging shade trees, thinking he was thereby losing a few square yards of grass, is now beginning to realize that 'twere better for him financially had he left more of them. The distressing sight of his poor dumb beasts exposed to the cruel, blazing, blistering sun, and torturing flies, with not even a mushroom to shelter under—or on the other hand, the woful picture of poor cold cows, with arched back, and tail blown way up under their bellies, trying to shiver themselves warm against an all-protecting barb-wire breakwind—these

facts are beginning, just beginning, to make him think. And when he reads his "Agricultural Gazette" (you know he is getting up to date) and the experimentally proved pronouncements of agricultural and live-stock scientists, who emphatically declare that a cow exposed to the tender mercies of a blithering sun and biting fles, cannot be in a physiologically thrifty condition; and when he also reads that a cow abandoned to the inclemencies of a cold, cheerless, rigorous, rainy winter, uses up a tremendous amount of body fat in her efforts to keep up warmth, he then realises that if he had left good shelter belts, his beefers and muttons would be thrifty; and his dairy cows, instead of using up their fat for maintaining warmth, would place it in the bucket in the shape of rich, golden cream. Then, and only then, does a ray of intelligence penetrate, and tell him in hard-cash language, "I'm losing money."

And when convinced, he immediately inundates the government experts with enquiries as to what is the best kind of tree to plant. He is now very anxious to renew his little forest. Had that man not been so greedy of his foot of land, had he not been so stupidly destructive, there would be no need to be now so seriously and penitently constructive.

Many a thousand acres of land I walked, totally ringbarked, and never a grass seed planted. There they stand to-day, just as they received their death-blow forty years ago. It's like tramping through a dead past, walking among these old, dead giants. The pity is that brains were put into the man, and not into the tree. The tree, however, has its sweet revenge, for there are many wooden heads.

I know men who have been wanton destroyers, and on the land for almost half a century, and they now confess that had they left standing bush on one quarter of their land and worked the rest more intensely they would have been further ahead. Not vast expanses, but properly cultivated manageable areas is the real secret of success.

I think it would be a good plan if the Lands Department inserted a condition in Leases compelling the settler to retain, or if not there already, to plant five per cent. of his area in useful trees. This would help to pull up the leeway.

Climatically, the proper conservation and distribution of timber reserves means much, not to the beekeeper alone, but indirectly to the whole nation. It is an acknowledged scientific fact that forests have an ameliorating influence on the country, transpiring through their leaves colossal quantities of moisture, which in combination with the low temperature within the shaded forests have the function of compelling the hot moist wind-carried vaporous aggregations to deposit as rain. Denude the country of tree growth, and you have no such great cooler to meet these frequent masses of aqueous laden cloud drift, and effect a condensation in the form of rain—that good old antidote to drought.

It would be interesting, could you spare the space, to back up this phase of the subject with an historical retrospect. I have trespassed too much on that already, and must content myself by referring to the past and present state of Rhenish Germany, as told by that ancient writer, Julius Caesar. Briefly it is this: Then there existed magnificent forests and good rainfall; now—well, they could take more there. In Asia immense areas of country, now desert and known only as something to fear, were once smiling, inviting rural places, well populated. To-day are being unearthed from the sand evidence which goes to prove that these parts were reduced to their present state by the devastating visitations of barbarous nomad millions, who swooped down and swept the country with fire and sword. Then it was that the wind was

able to get in its work, and the forward march of moving sand began. You know the rest as—Desert.

The same dread fiend of moving sand has started in a slow, insidious way in this country, due to practically the same cause—insufficiency of tree growth to arrest and settle it. I wonder will our people wake up in time? Let us hope so. Let us hope that man's efforts, instead of being a defacement of nature, may be the exercise of a God-given intelligence, an improvement on nature. And may future generations, when surveying this present arboreally devastated land, be able to exclaim, in pure ecstatic joy—"How beautiful and attractive it is!"

## ON POLLEN SUBSTITUTES.

* * * * *

W. ABRAM.

When statements are made in public and someone who thinks he knows better criticises or corrects them, the difference of opinion rests on facts, not personalities. I make this remark prior to what I am going to discuss, to avoid misconceptions, and I may add that, should I have the pleasure to meet critics or those I criticise out of the proper sphere of expressing such differences, they will find that I shall be very glad to meet them without any feeling of ill-will.

According to Mr. Morgan's paper on Pollen Substitutes, the person who can solve the problem of an abundant pollen supply will be the best benefactor to beekeeping in this generation. He says: "It is far easier for a novice to do well where pollen is in abundance than a real practical beekeeper where there is a scarcity of it." It seems to me that the letter from Mr. Bullamore, England, which was read in this connection, explains all in a few words, thus: "It seems to me," said Mr. Bullamore, "a good sized garden for pollen plants would be no more trouble than feeding pea-flower, etc." And so say I.

After gaining the knowledge that beef steak and white of eggs contained the albumen deficient in artificial food for bees, Mr. Morgan tried white of eggs, honey and pollard, and to him the white of egg is the best substitute, better in fact than pollen.

But others are invited to experiment on it, and give their experience to the public. Yes, that is it; let the other fellow do it.

Now, how would it be if I advised honey as part food for poultry and chickens? Honey is heat-producing, and if fed to fowls as suggested, they would lay eggs in winter, as they would feel warm. This suggestion will help both parties, beekeeper and poultry man, and Victorians will be thankful to me for my suggestion.

Mr. Beuhne says: "A man may experiment one season, and get success; next season conditions may be different, and what suited formerly may not give any similar results."

If a person, starved nearly to death, is given easy digestive food in proper proportion, would it revive and strengthen him or not? If one feasted on roast pork, beef steak, etc., would the light food above mentioned have any other than like effect? The easy digested food would be assimilated by the body in preferencee to the other. But if the starved person was fed heavily on roast, etc., it might prove different; it would be as inconsistent with proper judgment to offer a person stuffed with rich food baby nutriment as it would be to feed bees on white of eggs, when they live in plenty. Bees do not take treacle or jam at all, and golden syrup very sparingly, and as for poisoned food, Mr. B.'s reflections are too funny. I am afraid very few experts have tried what they preach.

Meal or flour was used as bee food in Southern Russia, where bee farms of 1,000 hives were kept many years ago. In Germany in 1857, Baron von Berlepsch fed 480lbs. of flour to a hundred colonies

with satisfactory results. Many others, myself included, have used it, yet it is not generally beneficial. Any flour, such as rye, wheat, pea, can be used, and the finer the flour the better the bees like it. But as they do not care to take it when fed with it in their own hive, the best way is to prepare a warm, windstill place, then fill drone combs on one side with flour; put the so-filled combs in a slanting position in the prepared place, which may be from 10 to 30 yards away from the bees, the flour to be on the upper side of combs. To get the bees accustomed to the place, put some honey there first, and when the bees are hard at it remove the honey and place the substitute there. If the bees need it they will collect it. They use their own sweet softening-material to make the dry flour sticky enough for packing it into their pollen baskets.

But, pollen or its substitute, whatever that may be, is not everything. To rear brood bees need water more than pollen or honey, as the food consists of about 70 per cent. of water, and thus water plays an important factor, especially in our Australian climate, where there is repeatedly a great scarcity of water. Nor does pollen, honey and water assure breeding; there are yet other factors needed, and these the beekeeper cannot supply.

Milk was tried. As a youngster I tried it myself, and it was good, wholesome food. It does not need to be dried. Milk contains most of the ingredients required as food for existence. Dr. Dzierzon and many other prominent beekeepers have used milk for bee food. By calculating the analytical properties of milk and those of larval bee food one is able to get a fair idea how to prepare a pap that suits baby queens, drones and workers. The trouble is the feeding bottle! You see, bees are not human beings yet. And so it was found that bees left to nature's design prospered as good, or better, than those spoon-fed.

After the foregoing substitutes had been thoroughly tested the egg came into prominence. Again trials were made here, there, and everywhere, but this also failed to make the poor beekeeper rich, and its use dropped like the other unnatural foods. I was learning beekeeping at that time, so the Victorian experiments and suggestions are not new to me. I have several times alluded to these mixtures, and advised desistance, as they may do more harm than good, and in any case are not natural bee food. The proper study of bees and their habits, weather influence and other conditions, are far more beneficial to success than unlimited arguments on pollen and its substitutes, etc. Bees do not live on beef steak and eggs yet.

If anyone wishes fuller information on this subject, and sends me a ten pound note, I will post him full instructions. Hitherto I have given my knowledge free.

How heavy Mr. Bolton's losses were! But the bee moth is not a disease or pest, it is a negligent beekeeper who cannot prevent it.

Re Spring Losses.

In this matter Mr. Beuhne gives himself the credit that "one by one his former critics have come to his (Mr. B.'s) conclusion with the exception of one who might object if he (Mr. B.) did not except him."

Well, if that statement is true it is very amusing that he should take such notice of that "one."

But has he solved the problem? It appears he is now as much in the dark as ever, and his supporters clamour for help the same as he does.

"In the heather country of North Germany bees suffer heavily if wintered on heather honey," says Mr. Beuhne.

Now it so happens that I have kept bees in the Luneburgh Heat, the centre of the heather country, and thus I know from practice about that honey, and the wintering of bees thereon, but my experience is absolutely contrary to Mr.

B.'s hearsay information. Heather honey is preferred as bee food in other parts of Germany, owing to its richness for such purpose, and every careful beekeeper in the heath has one or more casks of it in readiness for further use. It is stamped, comb and all into casks, and then closed till wanted.

Dysentery is due to nitrogen in honey consumed by the bees while in a state of activity—says Mr. B. That is news! But here again I have had experience forty years ago, and its causes are several and vary in different hives and in different years as much as paralysis does here. Oft repeated disturbance of bees in their rest; too cold a hive; too much uncapped honey; too much moisture; honey from pines; from honey dew; from aphis secretion—these are some of the causes of dysentery.

Perfect food is wholesome, but bees only can prepare it for their brood. With all our wisdom none can positively assert what is perfect, what imperfect food. What suits one does not suit another. But that evil results of unsuitable food may run through several generations, etc., is a lofty statement of Mr. B. and no more.

Honey Discolouration in Tins.

There are also other causes than tannin. I have gained experience in this many, many years ago. Rusty tins, or tins wet inside, unripe honey, etc., are the cause. Honey exposed to the atmosphere will absorb moisture enough to oxidise tin. Try and learn—then preach.

## PIONEER BEEKEEPING.

* * * * *

J. J. BRANCH.

When the time came to distribute the spare swarms from those colonies, among the first to receive a swarm each were two licensed surveyors and a blacksmith, the late Patrick McDonough, L.S., the late James Ralfe, L.S., and the late James McInerney. Mr. McDonough founded, and for many years, until his death, maintained an extensive apiary at "Rawdon Villa," to the northward of Rawdon Island, which was carried on after his death for some years by his sister, until comparatively recent years, when the property, with its famous orange trees, passed into the possession of the present owner, Henry St. John, Esq., B.B.K.A., to whom, among others, the writer is indebted for this information, and with whom the writer remembers discussing the humour of keeping bees in such hives as cracked saucepans and iron pots, in the absence of packing cases or other hives, for the frame hive was then unknown in our land, and the reader will please remember that even the daily bread was grown by hand, and ground by windmill or hand-mill by the sturdy toilers, whose heroism and self-denial made this age of railways and telegraphs possible to the much more fortunate apiarist of the present.

The swarm secured by Mr. Ralfe was taken to Maldon, at the south of Rawdon Island, and which, after duly increasing and multiplying, passed into the keeping of a friend of Mr. Ralfe, a visiting English apiarist, Mr. Henry Atwood, who organised the whole stocks into a comb honey apiary on the Quinby or Eke hive plan then in vogue, housing the stocks under bark sheds, after the continental method. Mr. Atwood's "chunk" honey, honey beer, and honey mead, are still famous in the land up that way among the young of that generation. It may interest my sport-loving brethren to know that the same gentleman was the first exponent of round-arm bowling that the writer saw, for which reason, and the fact that he was a genuine lover of clean, gentlemanly sport, no cricket field was held to be complete without his inclusion.

The late James McInerney was at the time of being entrusted with the care of a swarm a blacksmith and farrier in Horton street, Port Macquarie, on the third half-acre block from where Mrs. Doyle had her apiary, and justified the confi-

dence placed in him by building up an apiary of over a hundred stocks, while steadily pursuing the duties of the village blacksmith, "week in, week out, from morn till night." The whole produce of this apiary was sold and in demand locally at 6d. per lb., and as then the customer was supplied personally and directly there was no middleman trickster to suggest "eucalyptus" or any other flavour, and I have yet to learn of any injury that resulted from the eating of any pure honey, and I could tell your readers some bee and honey yarns that would have a tendency to raise their hair a bit if the occasion occurred. Just let me say that Mr. James McInerney still keeps a few stocks in frame hives at Settlement Farm to furnish honey for domestic use, so that it is quite safe to say that 60 years would not cover the time of family bee craft.

Among my earliest personal recollections is that of an apiary kept by a woman about 50 miles on the Walcha Road from Port Macquarie. Her father had been one of the late Major Innes' stockmen, and had probably been given a swarm, or stock, but anyhow Kitty had at the time of which I write an apiary of 17 stocks. I became acquainted with them in this way . The late Alexander Kennedy, an ex-resident of Dungog, had become a tenant on "Wallibree," one of Major Innes' cattle stations, and while there had bought "Cuthabuck," another of them some miles further up the Walcha road. Some of their stock had been moved to the new homestead, and as the father and sons were then engaged on a road contract, the eldest daughter at home took charge, and I was sent up there as companion, being about nine years old, and one of the nearest neighbours was the fair owner of the bees, which were in the box belt of that district, and that fact will account to many of your readers for the fame of Kitty's bottled honey for clarity, density and flavour. I remember going to the house one afternoon, while making my final round before going back home and to school again, and by some means, or for some reason, I took the route round, and not across the river, and upon making my appearance was met by the beekeeper and some friends with the anxious enquiry, "Did you see the dingoes?" I said "No," and enquired what was meant, when I was told that a pack of seven had come down the track through the "Gap," a passage over the Kinder Range, put all the house and cattle dogs over the fence into the flower garden, the terriers through the window, and after visiting the pigs and being ousted by a brood sow had tackled the bees, and been put to a hasty and ignominious retreat. In later years the beekeeper married, and upon her death the bees were removed to Wauchope, by bullock dray, and sold for 1/- per box, the purchaser being her husband's brother, who removed them to Fernbank Creek to his farm, where they were still a going concern at my latest enquiry or one of the owner's nephews at my home. These bees were never at any time in frame hives, being run largely for wax, and at my last conversation with the owner he had never seen any disease in them. The period of frame hive beekeeping had not come in the Hastings River district up to this time, but the surrounding bush was well populated by escaped swarms. From my earliest recollections the local blacks were on the market at any time with honey at so much per bucket. However, some of their honey-getting and the introduction of the frame hive and the more modern bee-craft deserve separate treatment.

## LARVAL FOOD SUBSTANCES.

* * * * *

Dr. A. von Planta's Investigation.

(Translated by W. Abram, Beecroft.)

The food of queen larvae, worker larvae, and drone larvae was chosen. To obtain the required material occasioned great difficulties. After the removal of a worker larva, only a small quantity, the volume of a pin's head of food remains, and this small substance contains about 70 per cent. of water. With drone cells the matter is more favourable, still more so with queen cells; nevertheless even then many cells must be robbed of their contents in order to obtain the material for an analytical investigation. To obtain the quantity of food for the purpose 200 queen cells and several thousand drone and worker cells were used. One can imagine how much labour it required to get the material.

Queen-larvae under the microscope indicated only singular pollen grains, so they must be taken as purely accidental. The same applies to food of young drone larvae up to four days old; it is exactly the same as the food of queen larvae, completely digested, and contains no pollen grains. Totally different is the food of drone larvae over four days old. It is more sticky, more yellow, and under the microscope shows a large amount of pollen grains, which appear greatly changed —the most are empty, unchanged are very few. The analysed worker-larvae food indicated no addition of pollen grains. The addition of pollen is not casual, it gradually increases.

The chemical analysis shows:

1. That queen-larva food remains equal during the whole period.

2. That the drone-food in the first four days is pollen free and digested.

3. That the food of over four days old drone larvae is rich in pollen, which endured considerable changes in the stomach of the digesting workers.

4. That the feeding bees use the pollen next the brood nest, and not that of the freshly gathered.

All three foods showed a green-white colour; that of the queen seemed denser than that of the workers.

The food gave albumen re-action; peptone, however, could only be traced.

Special attention was paid to the absence or presence of formic acid, which plays such a role as antiseptic in the bee household, but in no case could formic acid be proved.

The quantitive results are given in the following list:—

All the albumen in larvae food is not exclusively represented in protein. As the material was not sufficient to make many investigations possible, in order to find the various ingredients in which albumen is represented, it was unavoidable to select the nearest way to give figures to the collective compound of brood food of the albumoid substances.

Queen Larva Food.

Water, a, 73.69 p.c.; b, 67.83 p.c.; c, 66.64 p.c., medium, 69.38 p.c.

Dry Subst., a, 26.31 p.c.; b, 32.17 p.c.; c, 33.36 p.c. medium, 30.62 p.c.

Dry Substance.

Albumen subst., a, 44.66 p.c.; b, 48.41 p.c.; c, 46.05 p.c.; med. 45.14 p.c.

Fat, b, 12.62 p.c.; d, 14.49 p.c.; med. 13.55 p.c.

Glucyse, b, 17.90 p.c.; d, 22.89 p.c.; med. 20.39 p.c.

Ash, b, 4.06 p.c.

Drone and Worker Larva Food.

Water-drone, 72.75 p.c.; worker, 71.63 p.c.

Dry Substance ,drone, 27.25 p.c.; worker, 28.37 p.c.

Dry Substance.

Albumen, drone, 55.91 and 31.67 p.c.; worker, 51.21 p.c.

Fat, drone, 11.90 and 4.74 p.c.; worker, 6.84 p.c.

Glycose, drone, 9.57 and 38.49 p.c.; worker, 27.67 p.c.

Ash, 2.02 p.c.

Besides protein substances, sugar and fat, there seem still other substances present. What these are must be further investigated.

In the food of the over four days old drone larva, which contains much pollen, considerable less protein containing substances are found and also less fat than in the other food, but it is rich in sugar. This high percentage of sugar is the result of additional honey; which is also positively asserted by beekeepers. Such honey is not simply added to the food, but, like pollen, is intermixed with the food in the stomach of the food-preparing bees.

An interesting fact is that all food contains glycose (invert sugar) only, notwithstanding that in all inverted pollen sorts cane sugar only (with just a trace of glycose) is found.

It may be stated with positiveness that the food varies as regards combination. The difference as regards water and dry substances are but small, but such must be expected if we take into consideration the season, the year itself, the strength of the colony, and various other matters of the bee household, which play an important part. This is different with the food which receives no addition of pollen. The drone larval food contains 9.57 p.c. sugar; the queen larva food 22.89 p.c.; the worker larva food, 27.65 p.c.

Taking into consideration that the brood food is the product of the chylus-stomach of the bees, it agrees with the changeable combination of the food correctly. By the preparation of brood food the bees utilize now more of this, now more of another substance, now more of pollen, then more of honey, either thinned or condensed.

These analyses show that the drone larvae in their various ages receive different mixed food. The food of older larvae varies from that of the younger considerably, as regards protein, fat, and sugar. The older drone larva receive many pollen grains, which are absent in the food of the younger larva.

The food for queen larva remains almost constant, though the contents of albumen-substances fluctuates from 41.45 to 48.41 p.c.; but such fluctuation is very much reduced, when one re-calculates the figures upon water-containing fresh food. The contents of fat and sugar give also no great difference, and the acceptance that the food is almost constant, can be regarded as correct.

Brood food for drone larva under four days old, and that of the worker larvae varies in the compound so notably from the queen larval food, that it is reasonable to assume the bees prepare different food for the different larvae.

A better nutriment of the queen larva in contrast to the drone and worker larva is obtained by the much greater quantity of food which the queen larva receives. Beekeepers know that the quantum of larval food largely depends on the strength of the stock, the abundance of honey being gathered at the time, and similar momentos.

These short, but instructive, extracts on Pollen, Wax, Honey, and Brood Food, being the most compact results of such investigations, set at rest any further hypotheses as regards pollen, etc., and may induce scientists in Australia to do likewise in aid of our industry here. Practical beekeeping is in progress, but scientific researches, coping with new difficulties, such as paralysis, are not carried out, although we have staffs of scientists and experts.

## HONEY PRICES.

THE LACK OF INTELLIGENT CO-OPERATION IS TO BLAME FOR LOW PRICES.

BY SEBASTIAN ISELIN.

I have read with great interest the remarks of Mr. Roy Stevens in regard to the San Francisco quotations on page 67, Jan. 15, for I am the man who put that honey on the market, which was retailed at 3 sections for 25 cents. Oakland and San Francisco commission firms refused to offer as much as 6 cwts per comb for this honey, and so I sold some 1100 lbs. to a local retailer at 6 cts. The term "Choice comb honey" is, however, somewhat misleading, since these 1100 lbs. comprised all the light weight and candied sections of a lot left over from 1907, the shipping-cases being returned to me. Although I know that it does not pay to raise comb honey at such low prices I was well satisfied with the deal.

As to the San Francisco quotations, I must say that of late they have taken a tumble, and now seem to be nearer the actual market prices than ever before.

Since New Year the market is flooded with white and light amber Nevada comb, which is quoted at 8 to 14 cents. I am of the opinion that, if the beekeepers of Nevada were organized, and knew the conditions of the market, they could have obtained from 12 to 15 cents for this honey.

But it is not only in Nevada that organization and co-operation of the beekeepers are needed. Those in the vicinity in which I lived failed to put in an appearance at a meeting called for the purpose of organization some time last month, notwithstanding the fact that, as a rule, they are badly misinformed as to the prices prevailing. For instance, last summer at one time honey was so scarce here that I could easily obtain 13 cents for the best of my dark comb, and was told to bring all I possibly could take from the bees, at that price. When I

appeared on the scene again, somebody had just brought in a very fancy article of white comb honey and offered it at 10 cents per comb, and I could not expect the retailers to pay me any thing like 13 for my much darker honey any longer.

Had the other party known the condition of the market he could have asked from 15 to 17 cts. for his grade of honey and could have sold lots of it at that price. Later in the season a beekeeping farmer of my locality traded some honey for 8 cents (took its value in groceries), where I had obtained 10 cents in cash for a similar grade of honey varying only in so far as mine was clean of propolis and dirt, and the other man's was not.

And, again, as I accosted the buyer of a grocery firm which has handled my honey on and off during a good many years, he said, "I am sorry, but your price is too high," showing me the price list of a city jobber, a firm which quoted: "Nevada comb, water-white, 12½; ditto, light amber, 8," whereas I had asked 10 cts. for the best of my dark comb.

Thus I find the lack of co-operation among the producers sf nature's noblest article of food apparent on every hand. When will the beekeepers wake up and attend to the quoting of the markets themselves, instead of letting somebody else make the prices for them?

I regard it as highly desirable that we pay some attention to questions of this kind before we break our necks in trying to obtain larger crops from year to year while honey, our product, is going a begging the country over.--"Gleanings."

## SOME CRITICISMS ON THE WILLIAMS SHAKING PLAN.

Mr. Adrian Getaz sends a few criticisms, or suggestions, *re* the plan of shaking energy into bees. He recalls the fact that Mr. A. I Root used to say that bees that loafed on the front of a hive might be driven in with the smoker and sometimes made to go to work. Mr. Getaz has tried it a few times, but it was always a failure. Same as my experience.

He says it is not fair to say that bees that have been shaken are under the same conditions as a newly hived swarm. In the latter there is no brood to care for.

Mr. Getaz also says that handling a colony thoroughly, invariably stops nectar gathering for that day. As a rule, I do think that it has a tendency in that direction.—"Beekeepers' Review."



## Black Covering for Hives Objectionable in some Localities.

Elmer Hutchinson in "Beekeepers' Review."

For some locations, I believe some light coloured paper, like oiled building paper. would be better than tar-paper. One of our yards is in a hollow, protected by woods and brush, and it gets quite warm there sunny days in the spring, while, just outside, the wind may be blowing a gale, and so cold that if a bee ventured very far outside it never would get back again. In a place like this, hives covered with *black* tar-paper, would become very warm on such a day, and many of the bees would fly out and be lost.

THE WRONG KIND OF "PROTECTED" LOCATION.

I sometimes think that for such a location the bees would be better off with no protection at all, except a heavy quilt over the top of the frames, and the entrance contracted. For instance, two years ago this spring, we protected all our bees by covering the hives with tar-paper, and as we had a late and very cold spring, I am satisfied it paid us well, with the possible exception of this one yard that is so well protected. Naturally, everything went along all right here until late in the season. The bees built up well, in fact, they seemed to be doing better here than at any other yard, with the exception of part of one yard that had a better strain of bees.

Somewhere about the first of June, my brother came up here, and we drove over to that yard, took the paper off and looked the bees over, and found them *all* very weak. Only a little more than a week before this I had been over there, and looked them over, enough to see they were all right and doing well.

For a long time I puzzled over the question, of what became of those bees? Not until just lately has the answer come to me. The most of the time between that last vist of mine, and the one made in company with my brother, we had clear sunshiny weather, with a bitter cold wind, and their hives covered with *black* tar-paper, became warmed up by the sun enough so they flew out after water.

As they had to go outside of this protected zone after it, they very quickly became chilled after filling up with ice cold water, and never got back to their hives; then, as their need of water was not satisfied, more, and still more, bees kept going, and the most of them failed to come back.

One can very readily see that a week's time of such doings, would deplete a strong colony to a mere nucleus.

Had I furnished them water near their hives, there would probably not have been any very serious loss of bees.

That was a case where my hind sight was better than my fore sight. It is needless to say that I'll not be caught that way again.

## NOTICE.

### 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/-; 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 singlejudge, 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 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 offered for your work. Who will win?

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

## AMONG THE BEES.

### INCREASE.

In pursuance of the consideration of this subject in my last article, which dealt mainly with the amateur side of the question, I will now proceed to deal with it on a more extensive scale and from a professional point of view. What, however, applies to apiaries carried on as a life work to provide the bread-and-butter, may be useful to the man engaging in the pursuit as a hobby or pleasant pastime with only a few hives, while the reverse rarely holds good.

The shaking plan is extensively carried on in large apiaries. The extensive bee-keeper cannot afford to wait patiently for developments, nor can he potter about personally or by deputy watching for problematic swarms. An out-apiary is visited, and from patent signs known to the initiated, he concludes that a large proportion of the colonies are arriving at a period when they may swarm naturally. Forthwith he proceeds to anticipate their operations by making "shook swarms" of all and sundry. Now hives with foundation in frames are placed on the old stand, and bees are shaken clean off the old combs in front of the new hive, which receives also all the field bees returning from their foraging. The old hive is removed to a new site, there to re-queen and establish itself, or more generally with a young queen ready to head it. Or, again, if increase is desired, it may be broken up into two or three nuclei, generally at the period when brood has all been sealed over. Here is an important part of this and the following plans, as there is thus little loss from chilled brood.

A plan to be recommended is the following: Place a second body-box above the first, filled with empty comb if possible, and give the queen the whole range of the two sets of frames. When the queen takes possession of the upper story remove the other and make a new colony of it, or break up the brood nest into nuclei. It may be advisable, however, to place it overhead for about a week until all the larvæ are sealed over, as then they are more certain to develop to maturity. With an excluder between, queen-cells natural or artificial, may be ripened in the overhead body-box, so that when the division takes place queens may be well on the way to hatching.

An extensive beekeeper has his own system of carrying out this plan in the following way: He takes out a frame of brood containing the queen, and places it in a new body-box with frames full of foundation. A queen-excluder on top of this confines the queen to this lower body, while the brood is placed bodily above this to hatch out and get sealed. On or after the eighth day this top body is carried away to a new site to make up the desired increase. This confining of the queen on a single comb in an otherwise empty hive must be carried out only in warm, settled weather, because otherwise the bees might desert her. If nectar is flowing in, the lower frames are rapidly filled with fine fresh, new combs; but to secure this, if there is no flow, feeding may have to be attended to. The earlier this can be done, of course, the more certainty there is that surplus may not suffer materially. Another plan is: Withdraw the queen from a very strong colony—one that you can rely on as qualified to rear good queens—and in ten days, when the cells are all nearly ripe and all the brood fully sealed, proceed to make your division. Select two combs and place them in a new hive, shaking the bees from a third comb to strengthen these small lots. Confine them to their hive for about two days, and open the entrance late in the evening. Next day they will start work, and accept the new site on which they have been placed as their true home. While confined they have been making earnest efforts to effect their escape, and this helps them when they look out to a life of freedom in the morning to mark their location.

An intensive beekeeper on a large scale watches until he finds queen-cells being built preparatory to swarming, and then shakes the bees and queen from the combs into a hive filled with either combs or foundation, preferably the latter. The box with brood is then placed over some moderately strong colonies for six or seven days to be taken care of, and at the end of that time placed closely contiguous to the other hive on a new bottom board, and both hives are so arranged as to get the flying bees about equally divided between them. Generally the shaken swarm, the weak colony strengthened, and the old brood body now established by itself, make three strong lots. If number is the chief desideratum, he divides the brood-frames into two, thus making four. Queens are generally reared separately when desired to head any of these lots, but the started cells can also be used.

An up-to-date beekeeper, who believes in deposing his queens yearly, and rearing young ones to head all his stocks, does it in this way: About a week before the final winding up of the late flow he kills off his queens wholesale, in order that he may have all queens young the following season. Ten days after, when cells have come to maturity, half of the bees and brood are taken out of as many colonies as desired, with adhering queen-cells, put into empty hives, and both sets of frames completed with empty combs from hives that may have died out in winter or spring. These colonies are soon headed by young queens. It is presumed that they will have about a week or ten days of a steady flow, but if this in any way fails they are given a quantity of stores for winter, at the same time being kept breeding. Without killing off all queens yearly, this system may be practised on a limited scale; but up here it would fail frequently from the fact that queens would turn out drone-layers, owing to the changeable weather hindering them from mating.

The plans recorded above have all the same end in view. All desire increase, and only differ slightly in results, because at times the crop of honey is the chief desire, while in the other case the largest number possible of new colonies is aimed at, without studying how it affects the surplus. All can be worked about as successfully by the owner of two or three hives as by the man who runs as many hundreds.—D. M. M. in B.B.J.

## SUCCESSFUL APICULTURE.

### Locality and Site of the Apiary.

"What a glorious morning! Come along; let us go down to the apiary."..

"That's good, all twelve stocks flying well. I wish the farmer had not cut this hedge so low.

"Why?"'

"Because it gave the bees just the shelter they need. Yon range of low hills at the back protects them from the north wind, but this hedge gave them a near-home shelter, which saved many bees on the wing, and I noticed a difference after the hedge was cut." ..

"Well, cannot you move your apiary?"

"I do not want to do so, for, you see, this is a grazing field never laid for hay, so there is no danger from mowing-machines. If a loose horse is stung it is up and away, but when attached to a mowing-machine it is quite another affair We have only to cross this field to reach the highway, so that in taking our surplus honey home we have an easy run, and yet the bees are sufficiently far away from the highway in this quiet, snug corner. Then, again, the bees have a good free flight direct south, which is an important item when they come in laden and are flying low."

"Do you consider this a good locality for bee-keeping?"

"Only fairly so. We depend on the white clover and a few limes for our nectar. The ground here dries up so rapidly that the grasses are soon burnt up; so that too dry or too wet a season is not a success. The better the farming in the district, the better the clover crop. Modern farming does not yield so bountiful a flow of nectar. The rotation of crops is: (1) Roots, (2) wheat, (3) barley or oats, with (4) red clover for a one-year ley. The two- and three-year leys with alsike and Dutch clover are not so popular, so that a really good location is not often met with.

The Examination.

"Now, let us get to work. Bring along the tool-box."

"Which do you want—carbolic cloths or smoker?"

"Bring both."

"Am I to put fresh carbolic on the cloths?"

"No, I only want them weak just to keep the bees down from the tops of the frame. I shall use the smoker to subdue them, because at the first opening there is less unsealed honey, and it takes longer at this season of the year to compel the bees to break the sealed cells and fill themselves with honey. Bees with empty honey-sacs are liable to "ball" the queen."

"Which smoker am I to light?"

"The small one, and when lighting it, strike your match inside the cylinder, and hold it there with the waste over it till it is well alight; then push it lightly in, and you can be certain of a smoke. Never load a smoker too heavily."

"Shall I open No. 2 while you are opening No. 1.

"Yes; if you are at work you will not be so much afraid of a bee stinging you."

"What am I to look for?"

"Well, the four chief points of a good colony are: A good queen; plenty of bees to cover the brood; abundant stores; and stocks well established on old combs. No. 1 colony posseses all four points. There are five combs of brood—which shows there is a good queen—and plenty of bees and stores; also there are no new thin combs."

"I thought new combs were best, and that the queen laid better in them."

"That may be true later on during the heat of summer, but now, with cold, frosty nights, the cocoons left in the cells make a thicker midrib, which conserves the animal heat during the night, thus helping the colony in brood-rearing."

"But a diminished cell will make a smaller bee?"

"The cell does not grow less. Combs thirty years old produce as large bees as comb newly built from foundation. The midrib grows thicker, but the cell-walls are lengthened in proportion. Nor is the chitine of which the cocoons are composed insanitary, unless they are continuously damp.

"I have four combs of brood in No. 2, but do not see the queen."

"That does not matter. Look for her work—eggs or larvae. I expect there is plenty of stores?"

"Yes."

"Well, take a good outside comb, and break the cells by presing them in with the flat of your knife. Put it in the centre and close up the colony."

"I am putting this comb which comes next to the brood into the centre."

"No, don't shift that. You will find it full of fresh-gathered pollen from the crocuses and the palms. That is part of the brood-nest. Take another."

"I took that because I thought it would be warmer than the outside comb; but I will take the next."

"Don't forget to bruise the honey, because the bees will move it and place it just where they want it, leaving a nice clean comb, where it gets all the warmth, and, with pollen and honey handy, they will go on feeding the queen and breed rapidly.

"Enter in your book five combs of brood."

"There are only four."

"That is so; but there will be five when we examine again in a fortnight, and our book will show what to expect then. Book No. 1 seven combs of brood. I have put two combs of bruised honey into this stock, one each side of the centre comb. Ah! No. 3 not so strong! Only three of brood. I usually find No. 1 the strongest in the spring. After the turn of the year bees mark their flight more particularly than they have done previously. The flight in this apiary is usually towards the east, so that No. 1, being the first to the east end of the apiary, gains an accession of bees from the other colonies when coming home laden. We will let this stock alone, as it is no use stimulating a queen to lay and giving her extra room if there are not enough bees to cover her work. Book No. 3 three combs of brood. How is No. 4.

"It has four combs of brood."

"Well, repeat No. 2, and close up quickly: the sky looks overcast. No. 5 a drone-breeder, but a fair number of bees."

"How can you tell that?"

"Well, look at those worker-cells lengthened out—that is to accommodate the drone-brood; and notice that all the bees are old ones, the nurses being nearly all gone."

"Are those brown cells foul brood?"

"Not necessarily. You see the bees are losing their energy. There are no young bees to take their place, so the brood is neglected; but there is no ropiness. You can put the comb into a stock like No. 1 and they will clean it all out; but I do not consider the value of the comb worth the extra work entailed. Let us seek the queen. Here she is."

"Why, she is a smart, active queen!"

"Ah, that may be; but the old queen had clipped wings; this queens wings are perfect. Queens do not all live to a ripe old age. The original queen was not a year old. This young one has been raised during winter, when her mating tour was impossible; therefore she has only the power to lay male eggs, which are produced parthenogenetically. She is of no value; so we will dispose of her. Hello! rain. Hurry up with No. 6."

"Three of brood!"

"Bring the flour-dredger, and we will join No. 5 to No. 6 sharp, and go home, for there is a big storm brewing. We can come down again next week, and see if this stock is right and examine the rest of the apiary."—Joseph Gray, in British Bee Journal.

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A new way for dispelling robbers is given us from Texas: "Instead of going to the trouble of smoking the bees, contracting the entrance, etc., simply give the hive being robbed a vigorous kick or two. This results in stirring up the bees, and they come out with a rush, and pounce on every bee in sight ,and a vigorous fight is kept up against the robbers.—B.B.J.

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## ADULTERATED HONEY.

In the last annual report of the Department of Inland Revenue, which has just been issued, honey offered for sale in Canada, imported or otherwise, makes a poor showing. Out of 253 samples collected by the Department, 116 were found to be adulterated. At the last meeting of the Norfolk Bee-keepers' Assocation, Morley Pettit brought in a resolution which was passed, requesting that the Ontario Bee-keepers' Association appoint a committee which shall see that parties which have made themselves liable are prosecuted. Something along this line is needed to punish those who adulterate honey and other goods.

To get rid of pollen-clogged combs.—In "Gleanings" T. E. Diener asks what to do with combs packed with pollen. As my bees for a while after the white clover harvest stop breeding almost entirely they soon have these brood-combs packed with pollen. I take out one or two combs, generally the two outside ones, and then take two out of the centre, and put them on the outside and put in the centre two frames with full sheets of foundation. The bees soon draw out this foundation into nice white comb, and the queen takes possession of these at once. While rearing the brood in these combs the bees use up considerable of the pollen in the adjoining combs, which gives more room for the queen to lay. By the time the honey harvest in the fall begins, the hive is again filled with young bees ready for work, and combs full of brood. The pollen-packed combs I give to nuclei with young queens that are not occupying a full set of combs. They use up the pollen in these combs.

It is particularly the mother of the home, rather than the father, that I wish to talk about to-day. I am strongly of opinion that the mothers of the world are more tasked and overworked than any other inmate of the home. The mother who bears the children has more love for them than the father or anyone else, and God calls on her to toil and make sacrifice as He calls on no one else. I have seen careless giddy girls who let their mothers work early and late (almost oblivious of how much trouble and worry they made her), and yet when they got married and had children to train they turned about and did much as their mother did. Some of these same "giddy girls" may read this paper—at least I hope they will—and, may be, "turn over a new leaf" before they become mothers also, and before that patient and toiling mother lies cold in death.

## THE "FREE-WAY" QUEEN EXCLUDER.

Mr. A. H. Wilkes, the inventor and patentee of the "Free-way" excluder, which he exhibited at the B.B.K.A. Conversazione in October last year, has sent the following description of his appliance, which he considers will be found a great boon to beekeepers. He says:—

"This excluder is designed to allow the maximum number of bees to pass through during a honey-flow, when they are working at high pressure, and it is most important that their progress should not be checked. Being made of hard wire, it will allow 1200 bees to pass through at one time in a ten-frame hive with ⅜-in. top bars, as against 800 in the zinc excluder. The ribbed strips sit on the top bars of frames, and the bees pass through the wires with scarcely any hindrance, as the burnished wires present a smooth, rounded surface to the bees, instead of a thin knife edge as in the zinc excluder; it will therefore be readily seen that greater surplus of honey is the natural result. This excluder always sits flat on frames and cannot buckle; neither can it be propolised down, as there are no flat surfaces, and the spaces are guaranteed to be the same width as those in the zinc excluder approved by the Edi-

tors of the B.B.J. Its use also checks the tendency to swarm, and certainty the bees take to this much more readily than the zinc one; in fact, they take to the "Free way" excluder as ducks take to water. After long and patient experiment, I have succeeded in making it of non-rusting material. The price for one 15in. by 15in. is only 1s. 6d., and this sum can be saved many times over in the first year by its use."—B.B.J.

## DISEASE IN ENGLAND.

At an Association Meeting in England, at the close of the general business, Mr. White, the hon. secretary of the association, said last year it was suggested that in the neighbourhood south of Guildford there were a great many cases of dead bees. Their expert, Mr. Overton, was instructed to spend a couple of days in the district, and see what he could learn about these cases of suspected Isle of Wight disease, and reported that he found no trace of the disease in question, but that the death of the bees in the district was due to starvation and need of proper attention. Another of their experts had noticed instances of paralysis of bees, but when the honey flow started these stocks recovered themselves. Then later he saw the letter in the "Surrey Advertiser," and on enquiry he found that not only had the writer lost all his own bees, but that nearly all the bees in the district of Shalford, Bramley, and South Guildford had died out. The meeting ought to consider what steps should be taken to ascertain the cause, but he thought they would find that many were cases of neglect.

Mr. W. F. Reid, one of the hon. experts of the association, said it was rather difficult to say anything upon the chief point, which every beekeeper wanted to know—viz., the remedy for that mysterious disease. That was the first thing they ought to consider. Mr. White was quite correct as to what he said about starvation, but without doubt there was a disease there which had all the symptoms of what was known abroad as "May disease," or what the Germans called "Maikranheit." The Germans also called it "bee-mania," because the bees acted as if they did not know what they were doing. They came out of the hives fluttered about with their wings, ran about, got on to a stone or some piece of herbage, and then tried to fly, falling to the ground. As evening came on they would cluster together for warmth, and in the morning be found dead. He knew a member who lost nearly all his bees—nine or ten stocks—and in every case he had plenty of honey left in the hive, and there were no symptoms of starvation. When bees died of starvation they would generally find them with their heads in the cells, and nothing but the tails showing. They would also find round the queen a little cluster that had stuck to her to the last, and given to her the last trace of honey in their bags. They might be sure when the bees died of starvation they would find a large number of dead bodies. The instinct of the bee always caused it to leave the hive if it was going to die from old age or of any disease. Therefore if affected they would go outside to die, so if bee-keepers found all the bees had disappeared it was rather a serious matter. As regarded the disease itself, the bee-paralysis, or May illness, was thoroughly well known on the Continent, where they suffered from it a great deal more than beekeepers in this country. He did not think they need be afraid so long as it did not occur as an epidemic, as in the Isle of Wight. If it did so occur, then they would be in the same position as the beekeepers on the island. They would lose their bees. But he suggested one thing. Many of these diseases cured themselves. There was no possibility of eliminating that disease or

foul brood in their district unless they could protect themselves against the surrounding counties where beekeepers were so very negligent.

Mr. Hedger having mentioned the loss of several stocks, both by himself and others, Mr. Overton said he did not think there was any new disease in the country, and people would not lose their bees if they gave them proper attention. He confirmed Mr. White's remarks as to the necessity of keeping bees warm, and said they became lifeless at a temperature below 45 degrees, and might then starve, even though there was plenty of food in the hive.

Mr. White said the experts, acting under instructions, would bring to him particulars where they found symptoms of any sort of disease. The members could rest assured that the council would do everything in their power, and take active measures to investigate the matter and advise the beekeepers accordingly.

## FORESTS AND BEES.

Mr. W. Niven, sen., writes:—In the reservation of forests the bee farming industry is one that should be considered. It has always been, and is at present, carried on in a haphazard and unsatisfactory way for those engaged, the great difficulty being the wholesale destruction of most of the finest honey-producing trees of the State. There may be a reserve or forest with timber producing the best of honey. A bee farmer will look upon it as a good place to establish an apiary. After expending a considerable amount of money and labour, and getting the work on satisfactory lines, the reserve is taken for some other purpose. The trees are ringbarked and destroyed; the source from which bees procure honey is gone. They must either be removed or left there to starve. The bee farmer has no alternative but to leave and go elsewhere. The above is my own experience. A large number of others have had the same, and many have become discouraged and abandoned the industry altogether. Men who are fitted for the occupation of beekeeping should receive encouragement from our State Ministers. Our country is a splendid honey-producer and why shouldn't our Government assist bee farmers by setting aside reserves and forests for the benefit of the industry? These could be leased at a nominal fee, and so ensure forest reservation and encourage local industry.

For many years there have been efforts made to establish an export trade in honey. Consignments have been sent to England and other parts of the world, and a great deal written on the matter. Having been a large producer of honey during the past 20 years, my opinion is that the export trade has not been established because we have never produced a constant supply of good honey sufficient for local consumption. In the part of the State in which I reside, the county of Ashburnham, the indigenous trees that produce honey of the best quality have mostly been destroyed, and unless stringent measures are taken at once to protect those that are left, the production of honey of a good quality in this part of the State will soon be a thing of the past.

Should the buyer of honey pay the producer for the cans?—Mr. H. S. Philbrook says in "Gleanings"—We pay from 85 to 90 cts. per case for bright new cans (and they are the only kind it pays to handle for honey), and in selling we are forced to not only get nothing for our cans, but must accept a tare of 18 lbs., the actual weight of case and cans. Then the wholesaler advertises our cases and cans for sale, which he has never allowed us a copper for, and has received a tare of 18 lbs., so he may not pay for the case and the cans.