The Australian bee bulletin. Vol. 8, no. 2 May 30, 1899

West Maitland, N.S.W.: E. Tipper, May 30, 1899

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A JOURNAL DEVOTED TO BEEKEEPING

MAITLAND, N.S.W.—MAY 30, 1899.

IT will be seen by Mr. Stephenson's letter elsewhere that the Board of Exports have extended the time for receipt of samples of honey for export till the end of June, and 50 tons will be required then. Do the Department fully realise their work? Is it so much the easing of the present glut that is required, as the showing what can be done in developing the honey industry? It seems to us the large beekeepers are holding back, on account of the expenses to be incurred by the Export Board making the net prices realised very small. What is wanted is to really know what can be realised on honey in other markets. Ten tons sent away will get that, and satisfy present or intending beekeepers what future prospect there is in beekeeping. No need of all the expense of grading for that. Surely there are plenty of samples of good box honey, from which a few tons can be selected, even if all tins have to be opened. We would like to hear more from our fellow-beekeepers on this matter. In the meanwhile we have written to New Zealand for particulars how the honey from there, which realises such good prices, is sent home.

One way to feed bees. Brush the honey or syrup into empty combs with a painter's brush.

To hand No. 10 *Cosmos*. Quite up to previous number, both in interesting reading matter and illustration.

At a Pennsylvania Convention a Mr. Sutton exhibited an extension swarming pole in three parts, that totalled 30 feet when fully extended.

We acknowledge receipt of Robert Little & Co.'s Seed Catalogue. It is profusely illustrated, and should prove very useful to persons in want of plants, seeds, etc.

The wife of Mr. H. L. Jones, the noted Queensland queen-breeder, presented him with a daughter on April 20th. We are very pleased to be able to say both are doing well.

Gleanings and the *American Bee Journal* boast of heavy editions of 15,000 copies. They have a population of 100,000,000 to work on. Wish we could do as well on our little Australian five million?

Mr. A. H. Mowbray, of St. George's Terrace, Dickens Street, Port Elizabeth, South Africa, wishes correspondence for the purchase of Australian honey, extracted or section.

The Goold, Shapley & Muir, Co., of Canada, have sent several carloads of honey to England. They say they have realised on 60lb. cans, after deducting other expenses, just about 7 cents, less cost of can.

The Department of Agriculture are about to issue in book form the papers on beekeeping published from time to time in the *Agricultural Gazette*, by Mr. A. Gale. There is no doubt it will be well sought for by the beekeeping public.

The Queensland Post Cards are original. Quite a number received by us lately and nearly every one has a picture different from the other. One is a cane-field and selector's house, another a pine-apple field, etc.

On the suggestion of several of our well wishers and friends—Mr. J. D. Ward, and Mr. H. L. Jones, among them, we purpose issuing a honey receipt pamphlet in a better style of paper and cover, believing a better demand and more effective work in honey selling will result.

Mr. H. L. Jones, the well known Queensland queen-raiser, has forwarded us a honey label, which he has been using for some time, and which he says has without doubt increased the demand for honey where they have been used. The specialty being that the space on either side of the name and address is

filled up with honey cooking receipes. We will forward samples of same to those requiring some, and in justice to the originator of the idea, originated long before a similar one in America, we will call it the *Jones Label*.

Mr. Penberthy has written he has a splendid way of extracting in winter, if it is necessary. He has promised us an article on it. An article on "Wintering" by him in our next.

As per advertisement elsewhere, it will be seen the usual Conference of the N.S.W. Beekeepers will be held at the Technical College, Ultimo, on June 28, 29, and 30, and beekeepers are invited to send in the names of those who will give papers to be read. We hope it will be a practical conference, well attended by those who have the future well-being of the industry at heart.

BOARD FOR EXPORTS.

40 Young Street,
Sydney, May 19th.

Sir.—With reference to your favour of 15th instant, I have the honour to inform you that the question of Honey export was again considered by the Board at its last sitting, when it was decided to recommend that the time for receiving applications be further extended to the end of June, and that should 50 tons or upwards be then available, the proposed export scheme be proceeded with, failing which, the Board will recommend the abandoning of export for the present season.

I may add that the apathy of the beekeepers has caused great disappointment.

I have the honour to be,
Sir,
Your obedient servant
Jas Stephenson,
Secretary.

E. Tipper, Esq.,
A. B. B.,
West Maitland.

WORK FOR THE MONTH.

Are your bees all right for passing the winter? In our apiary we have good warm covering on top of frames. There is plenty of honey in, as we have taken nothing from autumn flow. Have also contracted all entrances, so we feel the swarms are all snug and comfortable. We also went round with carrying iron and chisel to examine all bottoms. While one would hold the end of hive up with the carrying iron, the other would stoop and kill all vermin that might be underneath. Spiders (mostly black with red spots) a few scorpions, two mice under one, sugar ants under another; one, the bottom not tarred was well eaten by white ants, we put a tarred one in its place. No white box whatever in bloom, yellow box on the flats show well, but much depends whether this dry weather will continue. We want more rain and Federation.

QUESTIONS.

217.—How are you disposing of your spare combs during winter?

THOS. WARNER.

218.—Which is the best time to operate on a foul brood colony, according to McEvoy, the middle of the day or the evening? I find if done in the evening any bees that take flight will enter any hive they come to, if done in the day time they will enter none but their own hive?

T. C. A. PYE.

213.—Old gambroon, moleskin, or bagging.

214.—Painted, white.

217.—Leaving them on the hives in upper story.

H. L. JONES.

217.—I always leave them on the hives in the upper storey. They are always safe there, and I find that colonies do just as well if not better with the supers left on over winter.

218.—Have had no experience, but should think it safe to follow McEvoy, as judging from his writings and experiences, and what he has accomplished, no better authority exists than he.

J. BASSETT.

217.—I extract all combs first, give them back to be cleaned up. An empty box below the

combs is the best. I then store them away with only seven in an eight frame box. Keep the two side combs close to the side to give more room to the other combs. If they are too close, and the moths gets in they will go from one comb to all of them. One of our best men here, puts his spare combs in a strong salt pickle brine, moths never touch them.

218.—Any time if there is no robbing. I prefer the evening; they will all go in the new box, the same as hiving a new swarm. Don't let it be dark.

J. ANDERSON.

213.—Smoker fuel. I use stringy bark, it cannot be beat. Old flour bags cut into small pieces is very good. A writer to a Melbourne paper advised using a cloth saturated with carbolic acid instead of a smoker to drive bees off the combs. I tried it but raised a rumpus and had to clear out myself. I would like to know if anyone has tried it and with what effect.

217.—When the honey flow is over and I am finished extracting, I select the strongest colony with least honey in brood comb, place a mat with a few holes in it on top of brood combs and stack supers with extracted combs on top. The bees go up and repair the combs and carry the honey left in the combs down and place it in the brood combs. When they have them clean, I take off the supers and stack them in the honey house or workshop in such a manner, that I can place a tin plate of burning sulphur under them at any time to keep down the moths.

J. T. ADAMS.

217.—Well, at the present time not much, as I have been delayed getting my fruit away, and not being able to do much with the bees, for since the red gum stopped it has not been safe to show them a frame full or otherwise, but I will tell you how I mostly do it. All combs that have not had brood in, are classed off in hives by themselves, these are tiered up one on the other inside honey house if room, if not outside, with bottom and lid, nine high. As moths never touch these, damp is the one thing to avoid. Those with pollen or had brood in are stacked inside a room, an empty hive under each lot, with the front removable. A lump of naptholine in the bottom box. If the egg of the moth has been laid before they go in, or any grubs appear later on, I remove the front of bottom box, place a bit of hoop-iron bent round a tin tray of burning sulphur on it and close again; of course there is a quilt and lid on top.

218.—This must be governed by circumstances If honey is coming in nicely, I prefer 11 a.m. till 2 p.m., the old bees are out and the young or house bees will stay where they are brushed into the empty hive to be on the old stand, before starting to brush them into it; get the queen in the first lot if you can. If honey is not coming in, then don't do it unless you have a bee tent, or things might be worse if you are a new hand and slow at it. Don't start till you are ready then go through with it, and clean up as quick as you can.

F. BOLTON.

203.—Should think not unless black bees had any disease previously.

204.—The Solar Extractor.

205.—Shallow box 8 inches deep, 4ft by 2ft 6 inch timber, with 1 by ⅝ in. strip along centre to take the bearing of glass, line the box with tin about 4 inches shorter than box, but not press the tin into angles at bottom, press tin in the centre only, and leave the sides rounded, cut out about 4 inches in width of bottom of box at one end and fit a tin trough to catch the wax. Use 21 oz. glass and keep clean.

207.—Large flies I believe called dragon flies which fly very quick and catch the bees on the wing. The Tarantula which prowls about the entrance at night time and pounces upon the first bee which shows itself. Then there is the butcher bird, he sits on the top of the boxes and swoops down upon the homeward bound bees before they have time to enter the hives, and at the same time taking no notice of the outgoing bees.

209.—Queens themselves would be as pure as their mothers, but their progeny would show very slightly the hybrid breed, also any queens raised from her stock, but never seen black drones from *pure* mothers.

210.—Yes, but being a beautiful Italian queen and my first, I spared her on spec, and this season she has turned out very prolific; the mistake was I believe introducing her to a queenless colony that was going down, and rather late in the season.

QUESTIONS NEXT MONTH.

219.—Are frames better lengthwise or crosswise to the entrance?

C. RADOLL, SENR.

220.—How to make preserves and pickles with honey?

S. J. WILSON.

221.—State objections to Hoffmann frame?

222.—Do you use slips of wood in place of wiring frames, if so, with what result?

E. T.

223.—In the *American Bee Journal*, C. Davenport describes how he took 30 colonies in early spring, all in good condition, three boxes each. In 10 hives he put queen-excluder zinc above the brood chamber, and below the super. In 10 he put queen-excluder zinc above the first

super. In 10 he put no excluder zinc at all. Result: 1st ten gave seven swarms and 500 lbs honey; 2nd ten, six swarms and 175 lbs honey; 3rd ten, no swarms and 150 lbs honey. He accounts for the differences, that the queen, having abundant room in the third lot, bred and gave the bees work to do to rear the brood, whereas in the first lot the queen was restricted in laying, and so the bees gave all their energy to honey gathering, the swarms that emerged being placed on top of hives they came from. How does this work in Australia?

F. BOLTON.

224.—What is the cause of queens laying 4, 6, and 8 eggs in a cell. The colony being pretty strong, I requeened and the new queen started just the same. I daily examined them until they broke into the larva state all huddled together, but wet weather started which prevented me from observing further into them. When I did get a chance there was only one young bee in each cell?

IN AMERICA.

W. S. PENDER.

I have no doubt you would like to hear a little of me while rambling among American beekeepers, so I will tell you a little of what I have seen. It may seem strange to you that I should choose the winter season to be in the United States, but as I cannot be spared from our apiary during our summer months I was compelled to choose such a time, but have arranged the time so that I will have about a month among the beekeepers in the Southern States during their spring. The weather here is cold, and the sun has shone so seldom that it is a sight to see him send forth a few bright rays. Snow, rain, fog and mud is the rule. On Monday, the 13th, I visited the town of Marengo, Ill. Taking train from Chicago I arrived in Marengo in about two hours, and a walk of a mile through rather pretty surroundings brought me to the residence of Dr. C. C. Miller. The Dr. had met the earlier train which I had missed, being unaware of a later train. I sprung in upon him as a surprise. I was then introduced to Mrs. Miller and her sister, Miss Wilson. The latter a few years ago was well-known in the bee world, she having written largely for the bee papers, and on meeting her I felt as if I knew her. After discussing an excellent dinner, the Dr. took me to his honey house. Here were piles of supers filled with sections, having foundation in readiness for the coming season. I do not mean to say they were got ready for the coming season; no, they are those the bees failed to fill up during the past season, the honey flow having been very poor in this locality. I was here introduced to many short cuts in handling sections. Dr. Miller uses thick-top frames, which he makes self-spacing with large-headed clouts driven in end bars and top bars of frames. He says the propolis is so abundant in his locality he is unable to use the Root-Hoffmann frames satisfactorily, and judging from the accounts of others who have seen his apiary at work, propolis is a great nuisance to him. At present a double bottom bar is used, the foundation being fixed to hang between, and so have combs built right down to bottom bar. Instead of wiring frames, thin sticks about one-sixteenth of an inch square are attached perpendicularly on the foundation and secured with a drop of wax. He claims they are more quickly attached than wire, and not using an extractor the combs need not be wired. Three apiaries are run, and the bees, at the end of each season, are brought home for wintering in the cellar, where about 300 colonies are quietly passing the winter months awaiting the warm spring months. This winter the bees did not winter too well, a loss of about 10 per cent. having already been noted. The old bees die off, and on the floor and bottom boards of the hives are to be seen many dead bees. The cellar floor is swept, and dead bees removed as occasion requires. I was rather aston-

ished to find the death-rate so high, for it was only a few days previous when I think I was told about four bushels were removed, and there seemed to be near that quantity again on the floor to be removed. The temperature of the cellar is kept as even as possible at 45 degrees, and every bit of light shut out. The bees seemed to think it was time they were put outside, for they shewed signs of little restlessness. The weather has not been at all favorable for doing so, and if it does not warm up shortly the doctor fears a heavier loss. The temperature outside was something under freezing while I was there, and snow and ice were to be seen in the hollows in the ground. Miss Wilson does a great deal of work among the hives, and says they manage the out-apiaries without loss of swarms. They examine all the hives at least once in eight days, and where signs of swarming are shewn the hives are treated to prevent it. I asked how they prevented the swarm coming off, and I was told that they simply made up their mind that that hive shall not swarm, and adopt any and every means to prevent it, sometimes one treatment and sometimes another, but that hive must not swarm. In each apiary are kept one or more hives which they call "a pile." These are used to take care of spare combs of brood removed from other colonies that do not require them, and also from which to draw brood to give to weaker colonies. In going through the hives there are always more or less combs of brood that can be spared by some colonies, while there are others that would be benefitted therewith, so these "piles" are kept for that purpose. After supper we indulged in a bee chat, and compared seasons, climate, etc., when I asked about the register. Dr. Miller keeps a register to which is tied a lead pencil, so it cannot walk—pencils somehow have the habit of disappearing when most required—and to avoid this a pencil is kept tied to the books where one is required, including one to his office desk. The first page of the register contains a list of articles required at out apiary and every day a visit is made the list of articles is read over and checked to see nothing is left behind. A page is given to each hive. The book was handed me to read but I might have been given Greek. The writing is all contractions, single figures and letters indicating nnmbers and words. The use of a register saves much time, and a bee-keeper using one has his apiary more under his control, for when he does not remember what was last done to the hive he is at a loss to understand certain conditions he may find a colony in. After spending a pleasant day and night I left next morning by train for Rockford.

BEES & THEIR FEATHERED FOES.

H. L. JONES, GOODNA, QUEENSLAND.

In writing on this subject, I do so as much from a desire to draw information from others, as to throw any new light on the subject myself. We have undoubtedly a good deal yet to learn in this direction, but with such a fine medium as the A.B.B. for disseminating our thoughts and experiences, we should now rapidly "make history" in this and in other lines, notwithstanding the infancy of our chosen pursuit in Australia. In looking up the writings of various authors in other countries, I find that a large number of different kinds of birds are included in the list of "Enemies of Bees," but as I may have something further to say on this later on, I will confine myself in this article to birds only that have come under my own observation.

The rapacious little martins were the first to introduce themselves to my notice as having a partiality for a bee-diet, and after them came along the Magpie—yes, our common innocent looking magpie. In 1889, I first observed these at their mischievous tricks, and they came in numbers too, selected a hive a piece and gobbled up the bees as if to the manner

born. Sometimes they caught the bees on the wing, but in most cases snapped them up as they alighted at the entrance. They carried on in this despicable manner for more than a month, but certainly didn't have it all their own way, as in the meantime their numbers grew beautifully less—thanks to a reliable shot gun. The Green Oriole has, however, the honour of being the greatest gourmand in this line that I have yet encountered, and its capacity for stowing away bees and *stings* is simply marvellous. To secure its prey, it sometimes settles on a hive and catches the bees as they flit home, at other times it darts from some convenient perch and takes the bee on the wing, but its most favourite plan is to locate itself in a fruit tree and either snatch up a bee as it alights on a blossom, or as it flies from flower to flower. In one of these little friends that I shot and made a post mortem examination upon, I found 15 stings in the stomach, sticking into the lining of it, just like pins in a pin-cushion, some of them being very firmly implanted and imbedded almost up to the head. Another bird had no fewer than 27 stings imbedded in its alimentary canal, and also one sting with its poison sac attached sticking loosely in its throat at the base of the tongue. I sent on the head and stomach of one of these birds to Mr. H. Tryon, our Government Entomologist, and herewith append his report: "The bird from which the head was derived that you submitted for examination on the 28th July, is an example of the Green Oriole (*Oriolus viridis*), a not uncommon denizen of the Brisbane district, especially during the winter months. The portion of its alimentary canal, that you also left for inspection, contained as you surmised numerous bee stings (seven of these were identified by me) that had partly penetrated and were still fixed in its mucous and muscular wall. There also occurred upon the inner lining of the viscus, and upon the bird's tongue also, several hairs that had been derived from the body of a bee. The special features presented by these hairs and stings, when considered together, yielded undoubted evidence that they were derived from honey bees upon which the bird had fed. The Green Oriole is well known as being one of those birds that are both frugivorous and insectivorous. It feeds upon figs, mulberries, loquats, various berries, and upon insects generally. I am not aware that it has ever been previously noted, that it includes the honey bee in its dietary." Does it not seem an extraordinary thing that birds should be endowed with an immunity from the poison of a bee sting, when *one* sting has been known to be sufficient to cause the death of a human being? Some writers however, maintain that birds eat only drones, others that they extract the sting first, or else swallow the heads only, but these are certainly mistaken, as I have proved times out of number.

In regard to the Martins, although they have paid repeated visits to my apiaries, they have never caused much loss, as on account of a very accommodating habit they possess of perching together in a row, their destruction is easily accomplished. The Magpies however are among our most valuable insectivorous birds, and I therefore always put up with a good deal from them before resorting to violent measures, in fact it is now several years since I destroyed one, but the gluttonous little Oriole is inexorably outlawed and therefore shot on sight every time.

In conclusion I will mention that I have looked up scores of works, right back as far as 1691, and while most of them accuse certain birds of eating bees, not one writer seems to have made the discovery that the stings may be swallowed with impunity, and may even pierce the walls of the stomach and yet to all appearance have no injurious effect upon the bird.

Mr. Gale's illustrated article on Section Honey in our next.

DO BEES REMOVE EGGS FROM ONE CELL TO ANOTHER.

F. BOLTON.

Upon page 9 of that interesting book, "Thirty years among the bees" by H. Alley, will be found a few notes upon bees removing eggs from combs given them and building queen cells for them. The writer seems pretty certain that nothing of the sort happens. I have found they do remove eggs from combs given them and place them in their own cells and rear queens from them. I will give you an instance. I removed queen on a Sunday morning. The following Sunday, I cut out all queen cells and placed in the hive a frame of eggs from five banded. The following Thursday I examined them and found three queen cells only upon frame I gave them, two queen cells upon 2nd frame, the 3rd frame empty, 4th frame three cells and young queens well advanced. I removed all cells but two on the frame I gave them, and placed them in nursery cages. Six queens hatched out, but those which hatched from eggs removed to 4th frame were weaker than the rest, and one had only two front legs that it could use, the other legs were like pieces of dry skin as thick as cotton. I introduced her safely, but have since lost her, I suppose upon her wedding flight. Would like to hear if other beekeepers have found anything similar.

SPRING MANAGEMENT OF BEES, ETC.

C. P. DADANT in *A. B. Journal.*

In the manipulation of hives in the spring there are two very distinct methods which ought to be considered comparatively and also separately to get into the details. The first method consists in allowing nature to work without any interference, except as it is absolutely necessary, in case the bees are short or weakened by circumstances beyond their control. This method is followed by the great majority of apiarists, but is certainly not always the most successful. The other consists in helping the bees in every possible way, by furnishing them whatever will tend to increase their activity and their prolificness; supplying them with food, extra space, additional shelter in cool nights, etc.

The first method is perhaps the safer one for beginners who are apt to overdo their part when manipulating the hive, and carry things to any extreme, which may prove even worse than a complete indifference to the condition of the bees. With an absolute lack of care certainly many colonies will suffer from want, or from extreme winter losses, and the loss in colonies will be great in hard seasons, after protracted and severe winter weather, or in cold, backward springs; but an experienced novice may lose as many bees through over-management as through entire indifference. In any case, it is entirely indispensible to ascertain early in the spring the needs of each colony.

The first requirement is a sufficient amount of stores to breed and recuperate winter losses to all colonies having laying queens. Queenless colonies need but little feed, as the brood consumes much more food than the adult workers. Then a queenless colony is less able to defend itself than one in normal condition, and is more likely to get robbed. So it is hardly advisable to feed them unless they are entirely destitute, or unless they have been given brood for queen-rearing and are in a fair way to recuperate. But queen-rearing in this climate can hardly be attempted till April 1, and in the meantime such colonies must remain in *status quo*.

The apiarist who wishes to carry his bees through with the least possible expenditure of time will ascertain that all the colonies have a sufficient amount of honey, and not too great a breeding-space, and will then leave them to their own resources until the beginning of bloom. If this method is not a very forcing method, it has at least the advantage of not taking any risks of drawbacks

and reverses through artificial forcing, when there is still a possibility of severe weather which might chill the brood of a too precocious colony. Yet, even with this method it is not advisable to leave four or five empty in a hive if there is only about the same number occupied by the bees. A large, cold space in spring is sure to delay the breeding, and here the division board, or dummy, plays an important part by enabling the man who wants to succeed to reduce the space within normal limits, making a small colony as comfortable in its hive over the space it covers as a larger colony may be in a greater compass. Two or three, or perhaps four, visits to each colony during the spring will enable one to readily follow the progress of the bees, and enlarge their space as needed, wherever weak colonies have been found towards the close of winter.

But if an apiarist has the leisure to attend to his bees daily, or if he is making it his especial business to rear his colonies to the highest possible strength for the honey harvest, there is no doubt that he can achieve very much more, and secure enough more honey to pay him for his extra pains, if he more closely attends to their needs. But, as I said before, it would be a great mistake to recommend this practice to the beginner, as he would perhaps overdo his work, and make a failure of his very eagerness for success. With this warning I will proceed to map out the course that may be successfully pursued.

As early as convenient, provided the weather is suitable, an examination of each hive is made, dead bees removed and all weakened colonies reduced to not over two combs more than the entire number they cover. The weaker the colony the more closely confined it must be. If upper ventilation has been furnished during the winter, and there is no probability of very hard freezing weather, it is best to close up all upper currents of air, for these have been given in the first place, only to prevent the gathering of the moisture over the combs during frosty weather. This moisture is no longer to be feared, but the air-current takes away heat, which is very necessary to the rearing of brood. So we close all upper currents and still retain as warm a covering as possible, and all the shelter that is available. The entrance of these weak colonies is reduced to a mere fraction. It must be of easy access, but as small as practicable. If feed is needed, and the weather is likely to be cold, so as to make it unadvisable for the bees to stir about, it is best to feed by supplying honey in the combs by interchange with more wealthy colonies. If the weather is fairly warm and likely to remain so, a little warm feed, but only a little at a time, is given right above the brood in a place of easy access.

Early feeding of weak colonies is a stone in the path of the apiarist over which he will surely stumble, if he is not very cautious, as can probably be testified by hundreds of my readers. When we supply the bees with combs of honey sealed, and in good shape, there is no excitement. In a few minutes they have taken possession and see no need of hurrying to consume it. But when warm feed is given it acts upon them exactly as a crop of honey would that began all of a sudden. They become so elated by their "find" that they lose all restraint, care for nothing, but spread the good news abroad, and not only stir up their own colony to unexpected activity, but even seem eager to spread the news to the neighbourhood, and "gossip" it about from door to door, apparently, but in reality imagining that they may expect to find good things almost anywhere.

If the weather is cold, many bees will perish that have strayed too far away. If it is warm the buzz and excitement may attract some powerful neighbour that will at once think of "expansion" and will try to annex the supplies of its weaker acquaintance. So it is necessary to keep a close watch and to use considerable discernment in the feeding of fresh food to weak colonies.

HOW TO INTRODUCE QUEENS.

After all plans have been tried and tested we have concluded that the candy plan is the best known all round method of introducing queen bees to strange colonies yet practiced. Do not make a mistake and dequeen the colony where new queen is to be placed before the arrival of new queen. You can take out old queen and introduce new one at the same operation. When queen arrives see that there is plenty of food in cage, pull off card from candy end of cage, place cage in some part of the hive where the bees can get at the candy end of cage, and they will soon take away the candy and the queen can walk out. It is always best to leave the hive untouched for 4 or 5 days after queen is placed in hive; at the end of 5 days if she is not out you can release her. In early spring, as soon as warm weather arrives and fruit trees are in bloom is a good time to introduce queens to all colonies that contain old run-down queens, as fruit bloom in any country ought to find the bees breeding up rapidly, and colonies that are not breeding is a sign the queen is at fault, especially if the colony has plenty of stores.—*Southland Queen.*

Gleanings says: In introducing queens many persons advise placing the cage with queen therein upon the top of the frames, to let the bees get acquainted with the new queen, while some of the bees eat the sugar candy plug that is in the cage, and release the queen. By placing the cage under the frames, and between two of them, there will be less danger to the queen, for there will not be so many angry bees to have to deal with; and when the queen comes up she has her escort of bees with her to look after and take care of her.

[Will not the new queen get the scent of the hive better by being placed at the top.—Ed.]

WINTERING BEES IN CANADA.

A. STORER, IN *Canadian Bee Journal.*

I made a clamp long enough to hold seven hives. Papered it on sides, bottom, and ends with old newspapers; then put three inch strips on the bottom for the hives to rest on. Packed all below and around the hives with planer shavings. The packing is three inches at the bottom and front, and eight at back and top of hives. I put a few strips of lath on top of frames, also new cotton cloth to cover the top of hive; then a piece of old carpet or bagging so that I can lift the shavings up off the cotton and keep it clean. Next I packed four inches or thereabout of shavings, then a thick layer of newspapers; after that I filled the clamp to the top with shavings —about eight inches at the back and ten or a little more at the front. The entrance is left five inches long, half-inch deep with a one inch hole at the centre of the end of the front of hive. This hole is to allow a free air passage if the bottom entrance gets clogged up with dead bees, which often happens. A board is then made large enough to cover both entrances, and lath nailed to three sides of it. This is fastened on the front of clamp with one screw nail so that it can be turned at any time for examination. The board thoroughly excludes the light, and the dead bees fall down between the board and clamp, when they are pushed out by the inmates of the hive, and also allows a free air passage, and keeps wind and snow from blowing directly into the entrance.

NEW THINGS.

G. M. DOOLITTLE.

The excitement now going on in some of our bee papers over plain sections and fence separators, reminds one of a similar craze which came over the bee papers some years ago, regarding reversible hives and frames. The reversible excitement raged very nearly equal to the one

of the present and caused hundreds and thousand of beekeepers to put dollars into the thing, which dollars, if we are to judge by the quietness regarding reversible frames of the present day, were entirely thrown away; for if there are any beekeepers now using either reversible hives or frames, they are not enough pleased with them to say anything regarding that pleasure. It is to be sincerely hoped that this plain section and fence separator matter will not prove such a bankrupt affair as did the other. History tells us that through the influence of the *New York Tribune*, Horace Greely was enabled to push to an issue the battle of Bull Run, when neither country nor the army was prepared for it, thus bringing defeat and sacrificing hundreds of lives for the unadvisible "push" of one man; and while there can be no such momentous issue at stake in bee affairs, as there was in this country in the early sixties, yet I cannot help but think that the course pursued by some of our bee papers in pushing new things, is as ill advised as was the pushing of the battle of Bull Run by the *Tribune*. I am not opposed to giving any new thing publicity, and a chance for such new thing to make its "mark in the world;" but it does seem that the throwing of the whole force of a periodical into such things as reversible hives and frames, deep cell comb foundation, plain sections and fence separators, etc., is ill advised, and has a tendency to influence the readers of such a periodical to invest money in something which will surely sink it for them when the craze is off, and reversible hives and frames, deep cell-walled foundation, etc., is declared a flat, dead failure. As for me, I am willing to "bide a bit," and use the old sections a little longer, especially as they brought the top price in the market the past fall, in an open race with all the others.—*Progressive Beekeeper.*

LARGE HIVES.

C. P. DADANT, in *Gleanings.*

I can't agree with you in double stories of small hives. Dr. Miller's way of putting the second story under the first is certainly the best; but even that does not satisfy me as well as my own way of having it all in one story, expansible at will. You must remember that I speak of a hive as long as the Langstroth, or longer, and about 2½ inches deeper, with a movable partition-board, or dummy, and containing 10 frames. This hive, as I have already explained is of a capacity that will about accommodate the most prolific queens.

Your eight-frame hive is too small; and when it is doubled, it is too large for the laying of the most prolific queens. If you put the additional story on top, you increase the room too much all at once. This has to be done at a time when the bees need all the heat they can generate, and a large space above them is not prone to help them, as you will readily recognize. Dr. Miller makes the addition at the bottom, and so does away with that objection. The queen will then spread her brood downward. *But if you are aiming to raise comb honey, as the queen goes downward, as a matter of course the bees will fill the space above them with honey as the brood hatches, and the result will be from twenty to an indefinite number of pounds placed in these combs before the sections are touched.* So Dr. Miller lays himself more liable than myself to the objection of our critics, that our large hives are not fitted for the raising of comb honey. As a matter of course, the same objection works equally well if we put the second hive on top. *The fact is plain, that you have more room in your two hives than can possibly be needed by one queen, and that the remaining space must be filled with honey before the sections are filled.* If your hive is exceedingly strong, you will probably harvest enough more honey to still render your course more rational than that followed by those who insist on cramping the queen, however prolific in a narrow compass;

but there will be cases when your judgement will not prove equal to the task, and in these cases your crop of comb honey will be null unless there is absolutely no brood in one of the two stories, and you perceive it in time to remove it. My way is plainly the best, for I increase or decrease the room only as fast as needed, one comb at a time if necessary; and when the hive is at its full capacity, if the queen can fill it I have it all in one compact mass, and have a greater surface on top of the brood-chamber for supers. That is, more bees can ascend to the super at one time, and that super with a greater capacity is nearer to the brood than one of the same size with your two-story hive. We all know how important it is in the spring to have the supers close to the brood. My hive is not so top-heavy, thus less liable to tip accidentally. If the queen does not prove equal to the emergency, and does not fill all the combs, there is no difficulty in contracting the brood-chamber by removing the combs that have no brood, to the size wanted by our friends the lovers of contraction and other methods. With your small hives you have no division board or dummy; or if you have one it is in the honey-house, piled under a lot of other traps, because you use it only in extraordinary circumstances. Mine is always here in the hive, for I have one space especially reserved for that purpose; and without this dummy, as I said before, our hive would have a capacity for 11 frames and not 10. So the reducing of the capacity of the brood-chamber is only a moment's work.

Now, don't understand me advising contraction, for I don't. I want only to increase the capacity of the brood chamber (if it is not fully occupied already by a populous colony) as fast as needed, and then leave it till the summer is over. If I raised comb honey I would not object to a few pounds of honey more than needed in the brood-combs; for I should expect to use an extractor whenever I saw the need of it. When raising extracted honey, however, there is no fear of too much honey below, if plenty of empty comb has been given above when the harvest was on, and the bees have not had to wait. I have seen the time when it was necessary to crowd the bees a little to get them to put enough honey for winter in the brood chamber.

I believe I have said somewhere already that we have tried double-brood chambers for extracting, and we did not like them. The addition of a full story, all at one time, unless it is on a hive that has already been given all the room the queen could fill, and is, therefore, very populous, seems to me more than needed. The queen also seems to be more readily attracted to a large body of this kind, and to desert the lower hive. Sometimes she will breed in both apartments; and when one tries to find frames full of honey they have to be taken from the sides, or combs of brood have to be extracted, which makes a possibility of throwing some of the grubs out into the honey. I know that some of our bee-keepers are so careful that this never happens to them, but I confess I can't extract every comb myself, even if I were as faultless as they, and I have to rely on a more or less careful boy to turn the crank.

In short, I have just as much objection to using full stories, Langstroth size for supers, as I have to using the little, shallow, four-and-a-fourth-inch toy extracting frames, which run matters to the other extreme, and make too much handling for the amount of honey harvested. The section-case is little enough for comb honey, but the size is entirely inadequate when extracting is the aim, and if you had only tried the six-inch extracting frames I know you would agree with me.

WINTERING.

APIS IN *New Zealand Farmer.*

Partly filled sections should be carefully put away for use next season, after the little honey they contain has been either removed by the bees or with the aid of the honey extractor. If by the latter, a small comb basket should be

used, which will not only hold sections but any pieces of broken comb. Honey extracted before being sealed over by the bees should be fed back to them, as not being fully ripened, it is almost sure to ferment if put up in tins or bottles. A plan I once tried of getting the bees to quickly empty a quantity of partly filled sections was to place them in an ordinary half story and place that under instead of on top of the brood chamber. In a few days the bees had quickly cleared all the honey out and left the sections dry for use next season. If the majority of beekeepers realised how useful these partially worked out sections are in early spring as decoys to tempt the bees to ascend and take possession of the top boxes, I am certain that much greater care would be taken of them during the winter months. They should be packed away in the ordinary broad frames in the half storeys piled one on the other with strong paper pasted both at top and bottom, and also over any crevices through which the wax moth might obtain an entrance. Pieces of camphor placed between the combs will also help to keep out this pest.

All surplus hives and boxes that can be dispensed with should be removed from the hives and carefully cleaned before putting them away for the winter. A good plan is to mix a fairly strong solution of Calvert's No. 5 carbolic acid in a large tub, and scrub the hive and other materials in it that have been in contact with the bees. The hives should be allowed to dry before being put away, and they will then be ready for use in the spring.

Spare combs that have passed through the extractor should receive a spraying of phenol, 1 in 400, and be suspended in a well ventilated place until they are perfectly dry. To clean the things in this way is not much trouble. The disinfectant will do a deal of good, and you will have the satisfaction of knowing that you have done your best to prevent an attack of disease amongst your bees.

MR. BEUHNE, IN *Melbourne Leader*.

Every colony should have a good queen, and sufficient stores, sealed honey preferably. I prefer removing all supers for the winter, and covering the bees with a bag quilt, cut just the size of the hive, of the material used for grain and flour bags. This is much better than the usual enamel cloth; being warmer and porous it absorbs the moisture generated by the cluster of bees, instead of condensing it, and allowing it to drop down amongst bees and combs as the enamel cloth does. It is more important to keep a colony dry than warm. A shallow box filled with sawdust, chaff, or other absorbent material placed on top of the quilt will still further assist in absorbing moisture, retaining heat and equalising the temperature. Many beekeepers leave the supers on their hives from one season to another, and contend that their stocks come hrough just as strong as if they had been shut down closely and confined to the combs of the brood chamber only. I do not deny this, and will even go a little further, and say that at a given time in spring there will, perhaps, be more bees in those hives which were wintered with their summer quarters on, but there will be decidedly fewer young bees in them than in those that were shut down tight and warm, and as the spring advances the order of things will be reversed. Colonies wintering in the larger space will rear but little or no brood during months, on account of the average temperature inside the hive being lower, as the heat radiating from the cluster of bees has more room to spread.

There being no brood rearing to cause wearing out in the colony wintered in the larger space, it will come through stronger in old bees. When, however, with the approach of warmer weather, both field work and brood rearing commence, these old bees will rapidly wear out, and the cluster will dwindle down in numbers to such an extent that brood rearing can only proceed very gradually, as more bees must first hatch from the small amount of brood in the combs before more combs can be covered by the bees, and kept warm enough to raise brood in them, and the season will be well advanced before the colony is sufficiently strong to cast a good swarm or make the best of an early honey flow, or else they will throw a swarm at the usual season, but too small to expect a fair yield of honey from that season.

When, on the other hand, a colony is wintered on just about the combs it can cover, more brood will be raised during the winter, and, although a larger number of the old bees, on account of the greater activity of a colony confined to a smaller and warmer space, and through the exhausting work of rearing the larvae, yet the force in spring will consist to a greater extent of young bees and more brood, and there will therefore be less dwindling when the brood rearing and field work commence in earnest, and the expansion of the brood nest will go on continuously and at a rapidly increasing rate. When the space occupied has thus become well crowded with bees, more combs may be added, either laterally or in a super, without intervening honey board.

Colonies which are abnormally strong at the beginning of winter may of course do quite as well with the supers left on; but these are the exception, and I make it a rule to allot space to each colony according to its strength, and sometimes winter colonies on as few as four combs, and yet they will, without any other help than adding another comb or two in spring, whenever required, work up to average strength by swarming time. Given the proper conditions, these small colonies will advance at a greater rate in proportion than colonies already of normal strength.

It is usually recommended to unite weak col-

onies in autumn instead of wintering them separately. I find it profitable not to do so. There is of course a minimum strength, below which uniting is necessary. But I generally winter my nuclei without wintering, putting two into one hive. with a thin, but tight, division board between them, and a separate entrance each. Thus I always have some spare queens on hand in spring to replace any winter losses. When, after removing a queen from one of the nuclei, I draw the division board and mix by alternating the combs of both, I still have a colony with a queen left.

CAPPINGS.

From American and other Bee Journals.

The Cylindrical Hive is one of the latest things in Europe. It looks something like a section of a log lying on its side, with four legs stuck into it—or like a barrel churn. It is about 2½ feet long and contains 20 circular frames, each comb being contained in a hoop having an inside diameter of 14 inches.—*A.B.J.*

The American Bee Journal, says:—We are informed that the apiarian output among manufacturers in Wisconsin during 1898 was as follows: 30,000,000 sections; 100,000 hives; and 30,000 lbs. of beeswax made into comb foundation. These figures do not include the supplies handled by dealers, simply manufacturers.

Cappings of the very whitest are secured by Mr Shaver of Canada, by allowing no sections to be capped above old brood combs. Colonies with old combs are allowed to build combs and fill them, but, as the capping process is begun, the super is transferred to a colony of the current year.—*Beekeepers' Review*

Mr. W. Stolley, of Nebraska, says of Sweet Clover:—In Nebraska it will furnish most excellent bee-pasture up to the time when frost kills all vegetation, and sweet clover is the very last to succumb. For early spring pasturing of cattle, particularly milch cows, there is nothing better than sweet clover. It runs out all noxious weeds, perfumes the air, and feeds the bees. A public road, well and evenly seeded with melilot, but the growth of it properly checked at the proper time, is a thing of great beauty, and there is nothing bad about it, but, instead, it furnishes a bee ranch hard to beat.—*Gleanings.*

In regard to the arrangement of hives in a yard, I have, of late, set mine just as close together as possible, and yet have it convenient to handle them. If not more than 150 hives are in one yard, I doubt whether they can be placed so close together that it will cause confusion, or bother the bees much to find their own entrances, even if the hives are all painted the same colour, and are as near alike as machinery can make them. In some cases it is more convenient to have hives a considerable distance apart, yet, on the whole, it saves much work to have them close together.—C. Davenport, in *Beekeepers' Review.*

J. H. Martin, in *Beekeepers' Review*:—When I work in the apiary, I provide two suits of common, thin, cotton-check overalls and jumper, called an engineer's suit. I prefer these thin suits to the ordinary blue jean overalls; for when one suit gets sticky with honey, after a day's extracting, it can be dumpted into a pail of water for a few hours, then wrung out and dried, and by alternating suits we always have a clean suit on. Bees hardly ever make an attack upon a *clean* suit of clothes of *any* color, but will do so upon a dirty suit; and the engineer suit is hardly ever attacked unless it gets unusually soiled; and then only under the arms, or up the sleeve, if the latter is left open for their ingress.

A SWARM CATCHER.—Get a small pole, say 1½ inches thick and about 10 feet long, take some black moss and wrap it tight around the pole near the upper end, making it about 18 inches long and 4 inches thick. It is best to wrap the moss with a black thread. Now make a hole in the ground deep enough to hold the pole firm, and at the same time it must be loose enough so that you can take it down and take it to your hive that you want to put them in. If you will put one of these poles for every 20 col-

onies of bees you have in your apiary, I will insure you that four-fifths or more of your swarms will settle on them. Don't put them all at one place, but put them all about over the yard.—*Southland Queen.*

Nuclei with queens always build worker comb; and combs with holes in them should be given to such for them to mend up. Strong colonies mend holes with drone comb too often. When your "hole—y" combs give out, cut out your patches of drone comb, and have it replaced by comb of worker size.—*A.B.J.*

Dr. C. C. Miller, says of Pickled Brood:—The disease is in the old pollen. If you want to keep clear of the disease, don't use mouldy combs or old pollen. A 10 per cent water solution of salicylate of soda will destroy the spores of the mould if it comes in contact with them, but if any bee-bread be present, the application will be useless so far as the bee-bread is concerned. When fresh honey and pollen are coming in, the disease usually subsides. Freezing will not affect the fungi.

F. L. Thompson, says in *A. B. J.*:—I tried a plan once for natural swarming on 15 colonies, and liked it very much, which I think could be readily applied to artificial swarming. Extra hives are necessary. The swarm is hived in the new hive on the old stand, and a day or two later the old colony set on top of the new hive and super, with a board between containing a little perforated zinc to allow the bees to pass up and down, and a bee-escape communicating with the outside to allow the drones and young queens to get out; and this upper story is kept there until all the brood hatches. That settles the question; there are no queens to find, no cells to cut, no after-swarms to hive, and the whole strength of the colony is kept together. I think it might be simplified by having no zinc or bee-escape in the board, but simply an outside channel, large enough for ventilation, connecting the upper hive with the entrance of the lower one.

J. E. Crane, in *Gleanings*, concludes an article on "Travel Stain" as follows:—(1) That stained combs come sometimes, from pollen carried into the hives on the bodies or bees, which for some reason they have not made into pellets, as may be proved by examining the pollen and the stained combs. (2) By the use of freshly gathered propolis, or of minute particles of propolis gathered from the body of the hive or elsewhere, and mingled with cappings, and is very common, as may be proved by examining the cappings through a glass, or melting up a large quantity and observing the propolis that will separate. (3) The most frequent cause, perhaps, in this section, is the use in capping of surplus combs, or impure wax from the brood chamber, caused by the mingling with it of propolis, pollen, the cocoons of young bees, and, under some circumstances, it may be the excrements of worms or bees, or mouldy combs, and often used first in the capping of brood, and later, in the super.

The longer the wax is kept hot, the darker will be the colour when it cools; but it is true that, when it is cooled slowly, impurities settle to the bottom of the receptacle. It is our practice to melt up about 1000 lbs., of wax at a time, and then we let it cool just as slowly as possible. Just before it congeals it is drawn off into cans; after that it is melted but once, and kept in that condition only long enough to bring it to a sheeted condition, and that usually is less than an hour. The trouble with the old methods of making foundation is that they required the old-fashioned dipping tank, a vessel that had to be deep enough and wide enough to take in a dipping board. The wax in this tank, or at least some of it, would be kept hot all day; and we found by experiment, several years ago, that keeping hot for three or four hours, or frequent reheating, would darken wax very perceptibly. Wax should be kept hot only long enough to let impurities settle to the bottom of the receptable. After that it should be

worked into foundation about as soon as it is melted.—*Gleanings.*

Dr. E. Gallup, in *American Bee Journal*, says:—Where bees take their own time and supersede a queen at the right season, and in a strong colony, I have invariably had good queens. I removed a queen from one of those strong colonies right in the season, when it was good weather or swarming time, removed all unsealed larvae, left the sealed brood and only eggs, introduced two frames of eggs from other queens, so I had three frames of eggs in different parts of the hive separated from each other. Now understand I had a large working force of outside or field bees, and a large force of inside working bees or nurses, yet I went to different colonies in the middle of the day and took out frames of comb with the adhering nurses and shook them down in front of my prepared colony, from several different colonies, until I had a hive running over full of nurses. As the nurses never had a flight, staid where they were put, of course the old bees went back. By allowing them none but eggs to start queens from, I did not run any risk of having queens started from larvae too far advanced as we many times do. Well, the result was, I had 36 extra-large cells built, and saved 30 of the first lot of queens, and every one turned out as satisfactory a lot of queens as I ever had.

R. C. Aikin, writes in *Gleanings* in favour of Tall Sections:—Bees in building a comb are inclined to stop the downward progress before attaching to the bottom-bars, leaving a space or passage between the bar and the comb. They evidently do this instinctively. Look into any box hive, and you never find the combs attached to the hive bottom unless the combs have settled after construction, causing them to rest on the bottom, when of course they would fasten, as they do all surfaces that touch. Again, look into any brood chamber in which the combs have never been tiered up above another set, and but very few are attached to the bottom bars. Not only are they not attached to the bottoms, but almost invariably are the corners rounded more or less. Now apply this to sections. Suppose a section were only two inches deep, do you not at once comprehend that, if a space is left between the bottom-bar and the comb, and the corners rounded, there could be but little more than one inch of the comb edge attached to the uprights? *Now increase the depth of the section, and every bit of the increased depth will be attached. The deeper the section, then, the greater the proportion of the comb that is attached to the wood.*

On some cold morning just take a peep under the quilt at the bees of your stronger stock. Be as quiet as you can, dare hardly to breathe, and jar nothing near the hive. Well, if you have not made such an examination at any other period of cold, you will be almost startled into wondering where your bees have gone to. What a mere handful compared with the rousing populous colony you knew to be there when you left them snug and well stored for winter. It seems hardly possible such a vast host can so contract themselves that a gallon measure will more than hold a population you imagined would fill at least half a bushel. The bee-nest at this season is practically its own life preserver, and what heat there is present is only to be found towards the centre of this compact mass of bees. The hive itself simply acts as a shelter, preserving them from the direct influence of the cold winds and wet, while the temperature around the walls (inside) of the hive is but little higher than that on the outside. The only change that takes place, and that a highly beneficial one, is when during a spell of sunshine the interior of a thin-walled hive rapidly rises in temperature; the bees quickly responding to this genial warmth, immediately expand their cluster, while many set about bringing the distant honey to be restored in the cells adjoining their winter nest. This is done in such a systematic manner that the extreme outer combs

are first relieved of their contents, while the whole outer face is cleared before the other, nearer side, is touched. It has been declared that the temperature on the inside of the hive walls stands at from 80 to 90 degrees during winter. There was never a greater mistake; as we have already said it cannot possibly be much higher than the outside air, and such a high temperature is only to be found at the centre of the cluster. Bees not only chill to death, when in small numbers near any wall where the mass of the bees do not cluster, but can not maintain life if separated by only a single comb from the actual bee nest. A high temperature can only be registered after the bees have been disturbed, or by withdrawing a previously arranged thermometer from the heart of the cluster.—*Bee Chat.*

To prevent a swarm scattering into other hives, simply sprinkle the bees with a little water whenever you dump them off the branch on which they have clustered; then they will not take wing, but march straight for the hive in front of them.—F. L. Thompson, in *Progressive Beekeeper.*

R. C. Aiken in *American Bee Journal*:—I believe that all normal colonies when gathering nectar and ripening and storing the same secrete more or less wax regardless of the need of it; and more, that the secretion and manipulation of this wax is principally by bees *under* field-age—bees that would have been idle if not thus engaged. It seems to me that those who make claim to the doctrine of the great loss of honey when a colony has to build comb, make this assertion without due consideration of all the facts. Let me offer a few figures: A 10-frame hive, Langstroth size, takes nearly two pounds of wax to construct its comb. Surplus honey from the same hive to the amount of 25 pounds, means about three pounds of wax secreted, which, at the ratio of 15 of honey to one of wax means 45 pounds of honey consumed in comb construction. Suppose that the loss by bees being detained from the fields that otherwise would have been there—say reducing the field-force one-third amounts to one-third the total honey gathered. This would be reasonable surely. The brood-combs should contain not less than 35 pounds, which added to the 25 of surplus received would make 60 pounds. Thus the bees kept secreting wax and building it into comb, should have instead added to the total store another 20 pounds. Put these figures together? Forty-five pounds of honey *consumed* in wax-secretion, 20 lost by bees kept at home—total 65 pounds. If such a theory is correct, a *swarm* hived and building *all* its comb and yielding a 25-pound surplus, should, if given all the comb they could use, have yielded, in addition to the 25 pounds, 65 more—a total of 90 *pounds of surplus* honey. Is not this a reasonable conclusion.

THE EUCALYPTUS IN CALIFORNIA.

Mr. W. A. Pryal thus writes in the *American Bee Journal*:—It is a delightful pleasure to a lover of Nature to sit beneath a eucalyptus tree on a balmy day in winter, and listen to the myriads of bees merrily humming their gladsome tune as they industriously gather the nectar from the thousands of flowers overhead. With what vim they work is fully attested by their joyous hum and their rapid flight to and fro between hive and tree.

It is not long after the gum-tree begins blooming that the brood-chamber that was most depleted of stores during December—which, to me, seems the month when the bees consume the most honey in this climate—is again well provisioned. This honey is very dark in colour, thick, and of a strong, aromatic flavour; the colour often resembling the iron-coloured sap that sometimes exudes from a cut in the tree, and forms a gum of a rusty iron nature.

All through the winter, when the weather is fair, my bees work on the blossoms of eucalyptus globulus (blue-gum), and sometimes on eucalyptus rostrata (red-gum). It is not always that the latter blooms during winter hereabouts—more often its season of inflorescence is in the fall. Even then it is a boon to the apiarist, for it allows the bees to lay in a store of sealed honey for winter.

There are many varieties of the eucalyptus in California besides the two I have already referred to, but I consider these the best for the beekeeper, as they are of rapid growth, bloom profusely, and make excellent fuel. Eucalyptus globulus is well known; it is now about one of the most common and striking trees we have in the State. Eucalyptus rostrata is not so common. It is not quite so rapid a grower as the blue gum, but it is generally of a handsomer appearance, if it is possible to attribute beauty to either of these trees. Some people are of opinion that all varieties of eucalypti are ugly; this is far from being correct, for out of the several hundred varieties of gum trees there are many that are ornamental.

Any beekeeper who possesses a patch of land in the hills should by all means plant as many gum trees as he possibly can, as I consider these trees very valuable for fuel, ornamentation (and God knows that our Southern California hills—and some of the Northern ones, too—are quite desolate in their treeless nudity) enhancing the value of the realty; and last, though not least, for honey.

Eucalyptus is of easy culture, and any one can raise the plants from seed. When the young plants are eight or twelve inches high, they are ready to set out in the place where they are to remain. They will require no attention after they have been in the open ground a year or two. I would recommend planting them in clumps of a dozen or so, rather than plant them at set distances through the field as one would plant an orchard. Clumps of trees at irregular intervals scattered over a field or hillside are more picturesque than when set out orchard fashion; besides, the trees grow better, they do not have that bean-pole appearance that Rambler attributed to them once upon a time. In order to make them grow rapidly the first year or two after being planted in the open, and to prevent their being choked out by weeds, they should be cultivated.

After March eucalyptus honey is not so dark and objectionable as that gathered during the preceding months—at least that is my experience. Possibly in the southern counties of the State the honey from this source may be lighter in colour, owing to the difference of climate. I am told that some of the honey gathered from these trees in Australia is very beautiful in appearance; that it is as light coloured as one could desire. Then I have been told by others that it is dark and disagreeable in flavour. I have not the least doubt my informants

are right ; they came from different sections, and the climatic conditions being different, the honey was consequently affected thereby.

I have not seen any gum-tree honey that I could call light amber. Our light honey is produced after the eucalyptus has almost ceased to bloom.

I have noticed that in some portions of the State more of one variety of this tree is set out than there are of others, and that hardly any two places plant largely of a sort that predominates in another locality, excepting, I might say always, the everlasting blue-gum. What a hold this tree has on the affections of the people of this State! I suppose the reason of this uneven distribution is due largely to the nurserymen who introduced the trees in the different towns of the State. One man would get a collection of a few sorts from some Australian friend. He would raise a lot of plants from these, and in time they would be set out in his immediate vicinity. In and around San Rafael there are some fine specimens of eucalypti, one of which is, I believe, eucalyptus ficifolia, which produces a generous profusion of gorgeous scarlet flowers in trusses. It is one of the most handsome of the family ; is rather tender, and on this account is cultivated more largely at the place named than any other place in this portion of California, because the climate of San Rafael is noted for its mildness. I have often seen ladies with large masses of these flowers as they wended their way from the San Rafael ferry in San Francisco. I should judge that the tree is a rich honey producer.

At San Mateo, San Jose, and other places about the Bay, I have seen many varieties, and they all seem to be attractive to the bees. I should think there are more than 2 dozen varieties grown about Oakland. It was here, I believe, that the gum tree was first planted in California ; it surely seems to thrive better hereabouts, than in any other place I know of. On our place we have a blue gum tree about a quarter of a century old, that is over three feet in diameter a foot from the ground, and something over 100 feet tall.

In the southern portion of the State I noticed a few varieties of eucalypti that I had not seen up here. I shouldn't wonder but they may be better honey producers than anything we have hereabouts.

In closing, let me advise beekeepers, especially those who have plenty of unimproved land, to plant eucalyptus trees wherever and whenever they can. Those who have little room may plant out what trees their land will accomodate. Raise more plants than you require for your own use, and give the surplus ones to your neighbour to plant. He may be glad to get them, for he may have been wishing to establish a windbreak behind his barn, or, perhaps, he had been thinking that he should set out a lot of trees that would give all the fuel and fence posts he and his children would require in the future. Just cast your bread upon the waters and it will return a hundred fold.

C. and H. H. S., Chidlows Well, W. A. April 25 :—It's a long time since we sent you any bee news, the reason being that there has not been any good news to send. We have had two poor seasons following, now making three poor years out of four since we have been here. The one exception was a really good season, but one fat year out of four is not good enough. Our average for the two last years has been under 30lbs. surplus honey (extracted) per colony, and to get even that we have had to shift them about to spots where we saw some blossom coming. At the present time our apiary of 145 colonies is in six different places varying from two to 14 miles from home. However we live in hopes of a good season again sometime, and will duly let you know when it comes.

CORRESPONDENCE.

Note that meeting of Victorian Beekeeper's on page 47.

F. S., Echuca, Victoria, April 27 :—The season has not been too good here, too dry.

G. D., Narara, May 20 :—I started with 36 colonies in the spring, have increased to 56 and extracted 3½ tons honey.

W. J. F., Milltown, May 19 :—I have had a fair season here, but am much troubled with foul brood, but I have no difficulty in curing it when once I discovered it.

A SAD STORY.—Mr. J. Davies, says: I would have written a letter for the *Bee Bulletin*, only I have been in trouble this six months with the Mrs., and now I have lost her. She was the main one to look after the bees.

Mr. H. Nancarrow writes :—Kindly withdraw advertisement about sale of apiary, and wanted a man. I have had a dozen applicants from all over the colony and Queensland, which shows how widely your little paper is circulated.

J. M. W., Binnalong :—We have had a very good season up this way for honey, averaged about 160 lbs. per hive. I think that about the general average of the district. I hear of some big crops but a glance round don't find any retired beekeeper.

A. S. B., Molong, April 6 :—Bee news is very scarce here, for it has been so dry since Christmas that the bees have simply to be left alone. There was a fine show for autumn flowers but the rain held off too long. Bees are in good condition for the winter.

J. A., Chiltern, Victoria, May 5 :—We have had a splendid honey season here, a steady flow for seven months. I have taken 1¼ tons from ten hives, and am living right in the township; my bees have to travel a good distance. There is every appearance of a good season next spring; all the eucalyptus trees are formings buds again.

W. M. M., Rose Gap, Victoria, April 18 :—Just a few lines to say we have been favoured with a good season in this part. I am just preparing for winter and my bees are in very good order, and plenty of stores. This season here is quite a treat to bee farmers, after dry season's experiences in the past. Honey is a fair price, so on the whole we have reason to be well satisfied.

C. W. G., Wattle Flat, May 10th :—I keep spare combs in 400 gallon tanks and find them very good, as there is no trouble with moths. I leave space enough to burn sulphur on top of combs. While the sulphur is burning put a bag over the manhole, then the lid turned upside down, that makes it very tight, then they will keep for years. I had no experience with foul brood in winter.

J. S. C., Kendall :—I think I shall be able to sell my honey locally. I get 6d per 2lb. tin, and 12/6 per 60lb. tin. I won't accept less and once I get a customer I take care to keep him. Never having any complaints re quality, rather the reverse. Some sell their honey here at any price from 5/- to 10/- per 60lb. tin. I will wait developments re export trade, and have little faith in Government exports—charges always too high. Hope will send best samples, as this is chance of a lifetime. With best wishes.

C. L, George's Plains, April 6 :—I am well pleased with your paper, I find it very useful to a beekeeper. I recommend it to any person keeping bees; if they have only one hive it will pay them to be a subscriber to the *Bee Bulletin*. Will you please advise me how to keep spare frames of comb till I require to use them again. I have at present placed them under a strong hive of bees.

We are placing them in supers on top of hives with linoleum between.

R. D., Boonoo Boonoo :—Having seen one of your *A. Bee Bulletins*, I think it a very useful journal for anyone intending to start bee farming. I am thinking of starting on a small scale, as I think this district is well adapted for bee farming, because we have a very large variety of wild flowers all the year round. The bush here is full of black bees, and out of three trees I felled this season I got seven buckets of honey.

H. J. G., Christchurch, N. Z.:—I still take an interest in the little bees and visit other beekeepers, and persuade them to read my *Bee Bulletin's*, some of their addresses I enclose. I have had very bad luck with people meddling with my bees. I have only four out of ten through them coming at night and leaving lids off, etc.

E. J. W., Wingen, May 5:—I notice that most of your correspondents favour white paint for hives; it may perhaps be a little cooler than other light colours, but it is the worst of any to stand the weather, owing to the extra quantity of turps used in mixing it. I use a light stone colour, and find it satisfactory. My bees have done fairly well this season, in spite of the dry summer. I am sending good part of my honey to the Board of Exports, that is if the matter is gone on with at once.

T. H., Morisset, April 29:—The more I read your little paper, the more I like it, and I think it is a paper that every beekeeper should indulge in. My bees have done well this season. I have averaged 100 lb. per hive, and they are now closed down for the winter with every super full of capped honey, and are all strong and healthy. I never cast one swarm this season, 17 hives is my number, and they kept at it since spring.

J. T. A., Mooroopna, V. April 24:—I have fallen back again into silence to wake to sense of my responsibility to you. I had a contribution written last month asking you to ring up Beuhne and enquire of friend Long, who had grown long by his absence, but the *Bulletin* turned up before I posted it, and lo! there they both appear, though not with the gust of the past. The drought has dried up Beuhne's little puns; well, he is not the only one either, but they will sprout again I hope.

R. K. H., Murrurundi, May 1:—The bees are still making honey, and now the cherry-plum trees are trying to flower before the winter, which gives them a little more, but lessens the outlook for spring. The sale of honey problem is becoming more acute, and soon I fear there will be no sale at a profit. I fancy the probable expenses of the Government Export scheme are frightening many from sending in honey for that purpose, though I believe if the work of export could be done less elaborately, many would be found willing to send. True, it may be impossible to do it more cheaply, but why not send home in producers' own tins instead of bulking, straining, and grading, and then repacking? Surely these expenses might be saved.

Mrs. Atchley, Beeville, Texas, U.S.A. writes: We are *very*, *very* busy just now, Factory running almost day and night, and the bees all need attention. We lost some bees during our recent cold spell, but few colonies out right, but most of the colonies were greatly reduced. We had it colder here than has been known for 50 years, ice eight to ten inches thick, and only 5 degrees above zero. Bees are not working well, and weather very fine. Should I be fortunate enough to make Australia a visit, which I may do, if my life is spared me, I shall certainly call on you. My health is still improving, and I feel better out among the bees.

W. K., Wollar:—I have had a splendid honey season this year, in fact from January up till the middle of March, it was one continual flow, the only fault to it was the honey being so thick that it was difficult to extract; but we managed it for all that. By the appearance of the trees about here, especially the box and ironbark, we will have another heavy flow next season, at any rate I hope so, not only here but every where in the colony. I hope you have been successful with your bees this year in the line of plenty of nectar and good sale for it. I have had a lot of deaths among my queens this summer mostly in very strong colonies. I do not know what caused it, for somehow I could not get them to make queen cells at all. However, I have got them fixed up now with bought queens for those that would not make cells for themselves.

T. C. A. P., Rockley, May 16:—Once more the honey season is over with us up this way. Sorry to say it has been a very poor one, did not get any honey till late in the season. Will be able to put bees up for winter in fairly good condition. The bee moth has been troublesome here this year, not in the hives but in spare combs. I extracted from several frames one day in February, and put them away in an empty tank; left them about four weeks when they were completely destroyed by moths. There was no sign of moths in the hives I took them out of, and the tank I put them into was almost airtight, but the grubs got there all the same.

J. H. Hermance, thus writes in the *American Bee Journal*:—Before you go among the bees provide yourself with a little salt where you can get it handy, and a small (ounce) vial of the best whisky; immediately swallow about one teaspoonful and lay a little salt on the sting and wet it with the whisky. You will, if not a drinking person (and no beekeeper should be) feel the poison going into the circulation from the wound, and the whisky from the stomach. This is is the only remedy I have ever found, if I except the exudations from the ear, i.e., ear-wax, which will stop the pain of a sting *instantly*, but it is not always attainable. After the salt and whisky are applied, let the sting dry up, and then remove it with a knife. But you can go right back amongst the bees without fear of their smelling or being angered, as the whisky and salt kills the smell as soon as applied.

T. H., junr., Glenrock, April 19:—I am sorry I cannot send you a glowing account of the honey season I have passed through, as it has been the worst I have had, the long spell of dry weather combined with the heavy winds, kept the bees very weak. There has been a little honey coming in these last few weeks, which has tended to strengthen the colonies, and they can now face the winter in good condition. With reference to the export of honey, I think something should be done to reduce the local charges. If it is true that the charges amount at this end, to £5 per ton, not many beekeepers will risk sending honey to England. I think a better way would be, for small consignments to be sent through the Farmer's Co-operative Co., of N. S. Wales; they could no doubt through their London agents, place it on the London market to the best advantage. Their manager here is qualified to grade it in a proper manner.

D. N. McL., Baan Baa, April 6th:—Have had a bad season here, no honey except a little early in spring, since then we have had no honey, money, or in fact anything else that would please the eye, or tickle the palate, nothing but drought and bush fires, with an occasional dust storm thrown in for a change, to shut people's eyes for a time that they gaze not too much on the nakedness of the ground. I have no news to impart, but would like to know if you have copies of A. B. B., from the commencement up to last November and what the lowest figure for same; also, if this ground has not been over in a previous number, an account from beekeepers of their experiences of quantity and quality of honey gathered from the following mentioned trees: Broad-leaf White Box, narrow-leaf White Box, Yellow Box, River Gum, broad or curly-leaf Ironbark, narrow-leaf Ironbark, Bloodwood, Honey-suckle and Apple,

[We cannot supply you with bound volumes of all years from its commencement, but of some years only, at 7/6 per volume. The first lot of trees you name all give good honey, the quantities being determined by the season and weather. Bloodwood, honey-suckle, and apple don't give first quality honey.]

E. J., Berwick, Victoria:—Just a line or two to let you see that I am alive and very much so, sometimes working my trade and the bees together, a fellow needs to jump around. I have had what is called a fair season here. I got three tons from 100 hives, and had not to be slow to get that either, but it makes me feel uneasy when I read of 17 tons from 70 hives, and 29 tons from 100 hives. I

had to shift twice to get my three tons and work them cunningly also. The bees did not gather enough honey to keep themselves until November 20th. On account of this lateness of the flow, I was forced to feed 15 bags of sugar. There was an immense lot of honey when it did come, but the cold, wet weather that prevailed, nearly all the summer through, prevented their gathering to a great extent. However, I am trying to get away during the winter to the warmer climate, but hardly know where abouts to go as I think next year will be poor everywhere. The season after next if I live, I intend to make my way to the Grampian Ranges. I would be glad if anyone could recommend me to a place for next season. This place where I am at present is no good for bees, as it is too cold and wet. Do any of our Victorian beekeepers know what sort of a place Rutherglen is for bees, up near the Murray; would be glad to know, as I will be busy soon packing my bees ready for the truck. Any hints upon packing bees to go by rail will be gratefully received. Trusting this will find all our brother beekeepers in lucks way, and enjoying good health.

[Fasten hives to bottom boards by pieces of tin, nailed on to both, say two pieces at side and two at back. Large tacks—one inch, with big heads—is best for this purpose. Get wire cloth cut to size of top of hive. Place on top of it across ends of frames, slips of wood, nailing same (using thin inch wire nails) through the wire cloth on to the frames, thus securing the frames from shifting. Put slips also on other two sides. Do this in day time. In the evening close the entrances up by jamming rolls of linen or some such stuff well into the entrances. In placing in train, endeavour to get the railway people get you a louvred car. Place the hives in it the frames running parallel with the rails. In taking them in a cart, they are better placed with the frames across the body of cart.]

J. B., Wodonga, Vic., May 15.—I was going to order some more labels only for business being so dull. Since I lost my poor dear wife in August last, every thing seems a dreary blank. It is hard to part, dear Mr. Tipper. I have had a very good season with the bees, I have 150 swarms up to date, started the season with 120. I got over 16 tons of honey, over 600 tins (60 lbs.). It is very hard work to sell it, I think I will keep most of it for better prices, if the horse don't starve waiting for the grass to grow. I had the spring dwindling in about 20 swarms in the middle of the season. I gave them all young queens and put a box of brood on top from other swarms when they swarmed; it never came back again. I got more honey on an average from them than any other 20, most all of them were pure Italians, never saw it with a hybrid swarm. I took two of my best swarms, one pure and one hybrid, for results in honey gathering. The pure gave me 530lbs., the hybrid 500lbs.—very close. I prefer the pure, they are easier to handle. The mistake some starters like myself make is too much colour. I saw an article in your A.B.B., in which the colour is put last. Honey gathered first. Pretty girls &c., &c. I saw an article some time since in the A. B. B. re foul brood and scalded boxes, from an expert. He stated that it was useless to boil the boxes, to take away the brood and give them starters only, put them back in the same box was all that was wanted. I have tried it for three years and never found it to come back again, through not scalding the box. This year I had one swarm with foul brood. I went a little further with the trial. I shook off nearly all the bees into a clean box with four starters only. After about a week I put in four full combs of brood. In about another week's time, I put on top a full box of brood from a healthy swarm. That swarmed, with the result, one of the largest swarms I had, and extracted all the season from them. Now for the brood that was left. It was warm weather and the brood all hatched. In about seven days I put in a cell just hatching, in ten days after she started to lay. All the queen cells were pulled down. Being a small swarm, I took all the combs from them, gave them starters in the same way as the parent swarm. Have been extracting from them ever since, no sign of the disease since. Never boiled the box. I put the combs in the sun extractor, and put them in the oven pretty hot.

NATIONAL BEEKEEPERS' COMMITTEE OF VICTORIA.

An enthusiastic gathering took place at the rooms of the Sericulture Association of Victoria, 366A Bourke Street. Beekeepers and those interested filling the available space.

After an informal discussion, the following resolutions were adopted :—

(1) That this meeting forms itself into a committee under the auspices of the Silk culture Association, the said committee to be hereafter named the National Beekeepers' Committee of Victoria.

(2) That the foregoing resolution be transmitted to the council of the Silk association for consideration.

(3) That the annual subscription be 2/6 per member.

(4) That a sub-committee be formed, the following gentlemen being elected thereon : Messrs Lloyd, H. H. Davey, Ruglen, Freeman, and W. L. Davey, the last named being elected as convener.

An apparent adulterated sample of honey was examined by those present. Said sample seemed to consist largely of some cheap brown sugar. The meeting was unanimous that some action be taken. The matter was handed over to the sub-committee for consideration.

A resolution, thanking the chairman, Mr. Brown, for fulfilling that position, was carried with acclamation, as was one likewise to the Silk association for their sympathy in trying to foster our industry, and for the use of their rooms. The meeting then terminated.

BY W. L. DAVEY.

Victorian friends, what will you do to help your own industry on to a firm footing ?

Will you send your name along at once to be placed upon the rolls, so that the sub-committee's hands may be strengthened. They intend to work for you, will you not encourage them, in this very necessary work ?

Cannot we save our humming little workers from that scourging Foul Brood ? Yes ! but we can do it much more effectively and quickly, by uniting and procuring a little necessary legislation.

Cannot we get rid of the adulterated rubbish that is ruining our industry ? The vile, conglomerated essences of those unprincipled jam factories, that spread their vileness upon an unsuspecting public. Yes, if we all combine for mutual protection.

Cannot we save those tree tops, those white clusters of unmeasured wealth ? They are doomed to destruction, if but once the woodsman weds them to his axe.

Yes, by a united stand we can succeed. Cannot those railways give our industry a helping hand ? Why kill the goose that lays the golden egg ? Our industry will lay them many golden eggs if they will but tempt her, by knocking off some freight.

Cannot we who love our industry, we who delight when winter leaves us and our bees, to the sweet influences of balmy spring, when virgin queens are piping in their cells, or better still when the air is clouded with the honey-laden humming Goldens, Hybrids, Blacks, when the breeze is sweetly scented, and the extractors' quickly whirling, twirling, amidst all this beauteous occupation, cannot beekeepers remember they have still a work that's left undone, perhaps you cannot be in Melbourne, but that smallest of subscriptions, can be there, that name of yours need not be found "wanting."

Beekeepers large and small, I appeal to you as men of reason, intellect and wisdom, to combine together for your own defence and advancement. For our final success before the world, let us combine freely, unreservedly, sympathetically, until we have slain adulteration, until foul brood becomes defunct, uniil we have the Englgh market as "Our Market," when every effort has been exerted, by every man of us, in this beloved industry of ours, then rest, but not until.

R. L., Taree, Manning River, May 12 —Winter is again upon us, and as usual its effects are made known to the bee kingdom. The season, as evinced at the beginning, was one giving unlimited indications of promise, but, after all, unfortunately turned out only a poor one, as is now made visible by the final results. The weather all through was most favourable, and the floral display well distributed ; still, with all these advantages our bees failed to locate the whereabouts of the nectar to an extent that the crop proved only a light one, not even the best quality at that. The bees were powerfully strong throughout, but showed no inclination for swarming. I obtained a trifle over three tons of liquid and some four hundred sections from mine. Those around, as far as I have heard, did not meet with much better success than I did. I am very pleased with the idea of the formation and appointment of a Board of Exports. I am thoroughly convinced that this is business, and the first and sure step towards opening up and establishing a permanent Home Market for our surplus honey, that is, if such is possible of attainment. If it is not, the sooner we know it the better. The production of honey in this colony, it may safely be said, is only

as yet in its infancy, still if a better and more satisfactory state than that at present exists is not brought about, the industry, instead of progressing, will ere long be languishing, and probably looking round the country for a place suitable for a cemetery. Men do not, as a rule, look, hoping to find grapes on the head of a thistle, and if they did, they would not likely find them. The same reasoning applies itself to our honey industry, and beekeepers are to blame for it (self included.) The thousand and one commission agents may do the best they can for us, in the assortment and disposal of the honey we send them, and they may not. The only way, to my mind, that the problem can be solved, and the beekeepers put on a sure and satisfactory footing, is to combine an concentrate the whole of the honey produced in the colony to their own establishment to be treated, before being placed even on our own market. If this were done I feel sure the results accruing would be little wonders. Not long since, the butter producers were in the same plight as ourselves, but look at them to-day. And how was this position gained? It came from the butter-makers themselves—their own efforts. The Government are entitled perhaps to some of the credit, but not all. Beekeepers ought not to be inferior to butter makers, and may attain the same end, if they will only pull together. If they do not, a great number will give up the business, and others will linger on for things, aspiring until the end, never realising, till all their hopes are reduced to one, and that embodied in the resurrection of the dead at the last great tribunal, when such will be called out to give an account of the deeds done in the flesh. The rules and regulations will need some amendments, Clause 5 for instance. But after the machinery is going awhile, everything will become practicable.