March 2014, Volume 22 No. 2

The NEW ZEALAND BeeKeeper

Labelling manuka honey

- Abamectin case study
- GIA discussion • Bee diseases then and now

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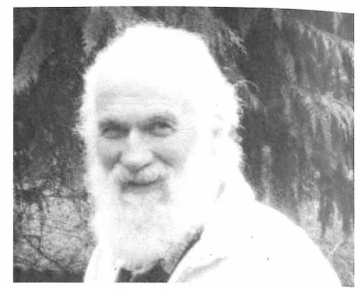
Front cover: This photo, taken by Fiona O'Brien, was awarded first place in the Scenic category of the fifth annual Ecroyd/NBA photography competition, held on 18 June 2013 at the NBA Conference, Ashburton.

Defining and labelling manuka honey

By Ricki Leahy, NBA President



The season has been very frustrating for a lot of us this year. It started out really well for most of us with our bees having come through strong, then suddenly the weather became somewhat uncooperative.

Reports are that some in particular areas are struggling to achieve any sort of crop at all. It's tough times for those but it pays to never give up. Often there are pleasant little surprises just around the corner that can be just enough to get you through. Most of us have probably experienced a drastically poor season at some time or another and I'm sure our beekeeping thoughts are with those of you now.

Manuka honey meeting

Along with many other members of the NBA, I attended the manuka honey meeting hosted by the Ministry for Primary Industries (MPI) in Wellington on 10 February. MPI Director-General Martyn Dunne gave a very good introduction about the aims and objectives of the meeting. He told us in no uncertain terms of the absolute need to define authentic manuka honey because the integrity of the product is currently under threat.

These threats stem from uncompromising overseas reports such as that by the Hong Kong Consumer Council in July 2013, concerning allegations of food fraud and statistics indicating that more manuka is sold than produced. Much of this is due to, and highlights, the fact there are differing interpretations of how to determine what constitutes manuka honey. We are warned that compromises, some bigger than others, will have to be made to reach the justifiable and sustainable conclusion needed.

I believe the meeting overall was a good start to the challenging process of defining and labelling manuka honey to meet the changes to labelling requirements outlined in the Australia New Zealand Food Standards Code. Everybody had the opportunity to contribute and indeed their comments were taken note of.

It seems the NBA, along with others, will be given the opportunity to provide input at a high level. The Executive Council will be considering this issue seriously and urgently so that we can provide useful feedback that supports the industry.

It's not for me to try and predict any outcome but certainly there was a very strong message that standards will be set and that if the industry didn't act by being a part of the 'doing', then it will be 'done to' anyway. Strong and brutal, you may think, but the reality is that this is where the situation has evolved.

> "...we will need to take heed of these guidelines."

So all of us who produce or market manuka honey need to get a heads-up on this one. June this year will see the introduction of an interim guideline on the labelling of manuka honey. My understanding was that these interim guidelines will provide guidance on the different types of manuka honey as well as claims about manuka honey. Work will then continue on improving those guidelines but a general understanding would now be in place for setting the criteria for the future.

The point I'd like to make is we will need to take heed of these guidelines. In January 2016, Standard 1.2.7 from the Australia New Zealand Food Standard Code (Nutrition, Health and Related Claims) comes into force. We need to take the opportunity of the interim period to manage and minimise the amount of non-compliantly labelled stock of packed manuka that we may have, either in store or on shop shelves.

It could be considered that any product at that time that is inadequately labelled may be deemed non-compliant and require removal from the market. This could be a costly exercise if we don't plan ahead for it.

For some of us, writing off and reprinting a few thousand dollars' worth of labels may be a sensible plan to ensure packed stock in the future is compliant. I imagine it will take determination from the whole industry to work through this process. However, with the right attitude, I believe we could end up with a very much improved operational and marketing environment. We may even surprise ourselves with the level of appreciation generated by actually getting our act together and doing the right thing for everybody involved.

New Zealand Apiculture Industry Conference

It's great to be told that planning for the New Zealand Apiculture Industry Conference in Wanganui is progressing well. There have been only a few grizzles from some but I assume (and hope) that they were mainly enquiring as to what was happening about the NBA Conference this year and expressing concern about due process.

Mostly there has been overwhelming support for this concept of a pan-industry conference, with many expressing that it was about time. Our sponsors and exhibitors are very happy also. I'm told that there is heaps of room for all the 'big boys' toys', so it is all looking to be a real humdinger and something to look forward to. Keep up the good work, Southern North Island Branch.

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Bee diseases then and now

By Isaac Hopkins

This article, focusing on the text of a speech by Isaac Hopkins to the NBA Conference in 1916, appeared in an edition of *The N.Z. Beekeepers' Journal* later that year. The speech was entitled 'Prohibiting the importation of hive bees into New Zealand'.

NBA Honorary Librarian Roger Bray unearthed the speech last year when researching his series of historical articles marking the centenary of the NBA.

Roger remarks that the speech "showed some 'thinking' by Hopkins about the spread of bee diseases by beekeepers (inadvertently) and the possibility of importing pests and diseases because beekeepers were 'importing' Italian queens at the time.

"The Isle of Wight disease was identified as a phenomenon in 1904 because this was the first area that had large-scale 'bee deaths'. The cause of the disease was not discovered until the late 1920s and reported by Dr J Rennie in 1927 that the cause of the phenomenon was discovered as a mite (*Acarapis woodi*) that affected the trachea of bees.

"This speech is just as relevant today when we consider CCD is a phenomenon where exact causes have not been identified. The main difference with CCD appears that there are possibly a combination of multiple factors leading to the collapse of a hive."

Prohibiting the importation of hive bees into New Zealand, by I. Hopkins

Mr. President, Ladies and Gentlemen,-

I was asked to contribute a paper to be read at this Conference, and after some thought I considered that could not introduce a more important subject for your consideration and discussion at the present stage of our beekeeping industry than that of prohibiting in the future further importations of bees into this country. My object in choosing this subject is to bring clearly to your notice the great risk we are running at the present time of introducing one or other of the serious and so-called mysterious diseases (mysterious because of their sudden outbreak now and again without apparent cause) prevalent in other countries and which have so far defied all efforts to discover effective remedies.

In parts of Australia every now and then we hear of an outbreak of what is popularly known as the "Disappearing Trick" of which I shall have more to say later. Then again in the Western and North-Western States of America quite recently there were very serious losses of bees by an outbreak of a strange disease. Now, the physical symptoms of these "strange disease" in both countries mentioned are similar, and both approach very closely those of the "Isle of Wight" disease – in fact, so closely that those best able to judge declare them to be one and the same disease. In view of this opinion it may be well to refer to it and its ruinous results in Britain.

"Isle of Wight" disease (Microsporidiosis)

Doubtless most of you have read more or less about this disease, and are aware of the tremendous losses of bees caused by it in Britain, which losses are still occurring without check where there are any bees left to be attacked. I may safely say that every issue of the *British Bee Journal* contains reports of losses from different parts of the country, and the prospects before British beekeeping from a commercial point of view is *[sic]* at present almost hopeless. Some three years ago the President of the British Board of Agriculture and Fisheries officially stated that the losses of bees up to that time through the "Isle of Wight" disease were valued at more than £1,000,000. It must be much greater now.

History of the disease

There appears to be strong evidence that the disease is not a new one, that in its features and effects it resembles that known on the Continent as "Mal de Mai" (May pest), Mal de Maggio, Mai Prankheit and in English–speaking countries as bee paralysis and vertigo, dizziness (Dadant). The symptoms vary, but the distention of the abdomen and the inability of the bees to fly are the chief ones.

The outbreak under consideration was first noticed in the south-eastern districts of the Isle of Wight (hence its popular name) in 1904, from whence the disease rapidly spread over the whole island, and so deadly was its effect that in 1908 scarcely a live bee remained in part of it. In 1906 the outlook had become so serious that the attention of the British Board of Agriculture and Fisheries was evoked, and Mr A.D. Imms, M.Sc., of Christ's College, Cambridge, was appointed to investigate the disease. His report was published in 1907. In 1909 the disease had spread to the mainland and so rapidly did it expand that in 1911 cases were reported from the South of England, East Anglia, Wales, and as far north as Blair Athole [Atholl], in Scotland and Stornaway in the outer Hebrides. In 1911 a commission consisting of four scientists and one practical beekeeper was appointed to investigate the disease. In May, 1912, their first report was published, and a further report appeared in July, 1913. They are very complete and comprehensive, covering between them 190 pages. Briefly, the result of their investigation is that the disease affects adult bees only and not the brood; that it is due to a parasitic bacteria named by Dr Zander *Nosema apis*; that it is very infectious, and that the chief sources of the spreading of this disease is "infected carriers". Now, I wish this Conference to →

take particular note of this, because it is on this fact that I chiefly base my statement of the great risk we are running in importing bees from where these so-called strange diseases exist.

"Carriers" are individuals in the animal world which, while infected with death-dealing germs themselves, seem to be immune to them, but spread disease wherever they go. The report says;- "Infected carriers are probably the most important agents in spreading the disease by infecting water and food with their faeces, as well as in keeping it in existence from season to season," and "the trade in bees from infected districts helps to disseminate the disease over greater areas than would be reached by natural means".

I will now refer to what appears to be similar outbreaks in Australia and America.

Australia

Several present will no doubt remember a serious and sudden outbreak of a strange disease that occurred in Victoria in the spring of 1909, when the bees in some districts – notably those near the Grampian Hills – were nearly wiped out. Mr Beuhne, the Government Apiarist for Victoria, stated before the Victorian Apiarists' Association in 1909 that the trouble was not new to Australia and that he sustained a heavy loss from the "Disappearing Trick" nine years before. The losses were so severe in 1909 that an investigation into the cause of the disease was conducted by Mr Percy Williamson, Commonwealth Analyst, and an officer from the Commonwealth Customs Laboratory. After a very complete investigation and inoculation experiments, the following report was issued:- "The results of this investigation lead to the conclusion that the disease observed in Victorian bees is due to an organism known as *Nosema apis,* first described by Dr Zander, of Erlangen." Some bees (diseased) were sent to Dr Zander, and he confirmed the above opinion.

America

Those who keep themselves posted on what is occurring in the bee world outside of our own country will be aware of the periodical outbreaks of a strange disease of adult bees in America. Quite recently there were severe losses in the Western and North-Western States. From the report of symptoms from different quarters published in the bee journals, they so exactly correspond with those of the Isle of Wight disease that the junior Editor of the *British Bee Journal,* than whom no one should be a better judge, unhesitatingly pronounced in *Gleanings* that the disease is Microsporidiosis.

New Zealand

Let us now consider our own position at the present time. Apparently we have had only the one bee disease (*Bacillus larvae*) to contend against all through (I hope the item on the Order Paper is not to be taken as a hint that we have Isle of Wight disease or a suspicion of it), and this we are dealing successfully with so far that it now gives careful beekeepers little trouble or anxiety. The position and future prospects of our industry could scarcely be better, but we must not forget that is has taken nigh on forty years of strenuous work, and much soreness of heart has been experienced before it reached its present stage. Taking all these matters into consideration, and comparing our position with that of the industry in other countries where these strange diseases occur, and from where we are importing queens that may be "carriers" of these diseases, would it not be suicidal on our part to continue to run the risk we have done hitherto, and undo the grand result of nearly forty years' work? Remember, there is no known cure for Microsporidiosis, that queens (according to the report) are "parasitic carriers" as well as workers and drones, and that when once introduced we may expect outbreaks to occur every now and again, as is the case in other countries.

In conclusion, Mr. President, I hope the Conference will give the matter its earnest consideration, and take such steps as it deems necessary to eliminate all risk of introducing bee diseases from other countries and urge the Department of Agriculture to act promptly.

Mr Ralph Askew said:-

The first mention of an epidemic among the bees of the Isle of Wight appears to have been made by Yank in 1906, who describes the bees as crawling in the autumn and the death of stocks after packing down for winter. Another writer says the abdomen of the affected bee is not distended in every case, while the wings are often twisted back, having the appearance of being dislocated.

Early in 1911 the disease was known to be present in several parts of England, and had been reported from Scotland. The great bulk of evidence obtainable pointed to the disease being infectious, and probably produced by some bacterial or protozoal parasite.

Dr Malden had proved that no bacteria could be found in the tissues of diseased bees except those in the alimentary canal. Drs Fantham and Porter, who worked for a number of years on this disease, had found a protozoa, also discovered by Zander in Bavaria named *Nosema apis* was commonly present, often in large numbers in the intestines of bees, exhibiting the symptoms of Isle of Wight disease.

When the beekeepers of the Isle of Wight in 1906 described an epidemic which was devastating their apiaries, and of which the symptoms were abdominal distension and inability to fly, their statements were received with incredulity; but investigation by Mr. Imms, of the Board of Agriculture, and Dr. Malden showed that the statements as to the deadly character of the visitation had not been exaggerated. The first cases reported from the mainland in 1909 occurred in counties nearest the Isle of Wight and was thought to have been introduced with bees from the Island.

A more careful study of the records and more extensive knowledge of the symptoms prove that the idea that all cases can be traced to the Isle of Wight outbreak is no longer tenable. We now know that the disease manifests itself in various ways and that outbreaks of the disease, characterised by similar symptoms, have occurred in all parts of the world. This being the case, we naturally want to learn all we can of the symptoms. Certain symptoms such as the inability to fly, the presence of numerous bees crawling on the ground in front of the hives, and the gradual dwindling of stocks, are common, but many other symptoms have been recorded, and no one symptom is characteristic of the disease. The only essential feature is the death of large numbers of bees, and often of the whole stock, especially during wet and cold periods of the year or during winter months.

Malden says the disease is probably endemic, but that owing to lack of observation, it often passes unnoticed in mild seasons,

the loss of bees being attributed to cold, starvation, dying, dwindling, diarrhoea, and other causes. It is only in severe epidemics that the disease attracts much notice. All the investigators, both in England and on the Continent, emphasise the fact that the disease cannot be diagnosed with any certainty without careful microscopical examination.

To prove that *Nosema apis* is responsible for this disease, a number of experiments were made [by] feeding honey or syrup containing spores to healthy bees, placing bees dead of the disease in cages occupied by healthy bees, and placing healthy bees in cages in which diseased bees had travelled. Some experiments seemed to indicate that partially immune stocks exist, but which may harbour the parasite, and act as centres of infection to susceptible stocks. The *Nosema apis* mainly developes *[sic]* in the cells lining the chyle stomach, and during the process the cells are injured and often destroyed by the immense numbers of young parasites which are produced, and the infected bee may die either before or after the spore stage is reached. It has been proved that Nosema is usually found in the intestines of bees exhibiting signs of the Isle of Wight disease but not in the intestines of bees from healthy stocks.

As far as treatment is concerned, nothing has been found of any or very little success in preference to drugs, and it is improbable that any successful drug treatment will be found. The methods of prevention most likely to prove of any use are provision of pure water, destruction of all dead bees and infected matter, destruction of diseased stocks, &c.

Discussion

The discussion which followed these papers was continued for some time, and eventually it was

Resolved on the motion of Mr. Ireland seconded by Mr Askew, and carried by 24 to 9 – *"That the importation of queens and bees be prohibited while there is any danger of introducing the Isle of Wight disease into the Dominion."*

References

Bray, R. (Apiarius Antiquary). (2013, February). Welcome to 100 years of the NBA. *The New Zealand BeeKeeper 21*(1), 11–12.

Hopkins, I. Prohibiting the importation of hive bees into New Zealand. *The N.Z. Beekeepers' Journal No. 24*, dated June 19, 1916, pages 405–409.

[Editor's note: some punctuation has been added that was not included in the original.]

Important membership information

Members of the NBA are asked to renew their annual subscription before 31 March 2014.

A 2014 membership renewal form is inserted in this issue, or you can find a copy on the NBA website www.nba.org.nz

NBA membership will be deemed to have lapsed for those members who do not renew by 31 March.

NBA Executive Council

The National Beekeepers Association of New Zealand

FEDERATED FARMERS INDUSTRY GROUP BEES

Notice of the 2014 Industry Group Annual General Meetings

to be held at the
Wanganui Racecourse Function Centre

Thursday 26 June 2014

- The AGM of Federated Farmers Bee Industry Group commences 8.00am
- The AGM of the National Beekeepers Association of NZ Inc. commences 10.00am

Chief Executive Officer

Plan to enter the National Honey Show

The National Honey Show this year will be bigger and better than ever!

The show will be held in Wanganui alongside the annual conference, and is open to all financial members of the NBA and BIG honey industry groups.

Entries from the Scottish National Honey Show, Dundee, July 2009. Photo: Maureen Maxwell.

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Please provide a caption and the name of the photographer so we can credit them.

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EPA has some enforcement challenges

By Don MacLeod, Committee member

The Environmental Protection Authority (EPA) can apply an Environmental Exposure Limit (EEL) to a hazardous substance to minimise its exposure in the environment.

At the present time, EELs have been established for many substances (mainly pesticide active ingredients) for water and soils. http://www.epa.govt.nz/search-databases/Pages/substance-exposure-limit-register.aspx

The following paragraph appeared in the EPA staff response to our submission on additional information for application APP201813 for Crown 225SL, in Section 32, Page 4:

> *32. The staff note the concerns of the NBA regarding the potential for environmental contamination by neonicotinoid insecticides. However, the staff note that EELs are not generally set for pesticide products. EEL values have been set for some pesticide active ingredients. However, EELs present enforceability issues and the staff do not recommend EELs be set for Crown 225SL Systemic Insecticide or acetamiprid.*

We do not know what the 'enforceability issues' are, but we believe it is difficult to test for individual pesticide products when you may have the same active ingredient in a number of pesticide products. We do know that no one is actively monitoring these EELs where the products are being used. We will find out more details for you.

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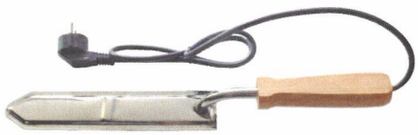

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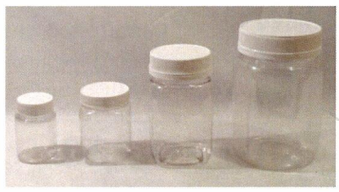

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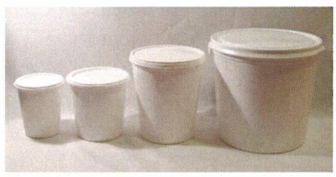

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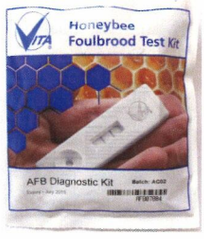

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Further comments from Canterbury

Following on from the last two journals, here are additional questions, concerns and comments from the Canterbury Branch and its Central South Island Ward representative about the GIA.

From Brian Lancaster, Branch President, on behalf of the Canterbury Branch

The Canterbury Branch is disappointed that Daniel Paul in his role as CEO has chosen to ignore the questions we raised in the February journal. We can only assume that is because the answers are detrimental to pursuing the GIA agenda. Repeating the questions in your reply is not answering them.

These are basic questions that all beekeepers need answers to. It would save a lot of needless discussion and rhetoric if these questions were answered within the industry before we start discussions with MPI. After all, we need to know what can be achieved through surveillance for exotic pests and diseases and what the affected parties' response will be.

So once again, I ask the same four questions:

1. which industry group that relies on bees for pollination (including honey packers) would willingly forgo a year's income so beekeepers can attempt an eradication attempt? Daniel, please contact the industry leaders mentioned in our previous reply and present us beekeepers with a list. Without this list, why are we even talking to MPI? If you can't produce a list, we will assume that no associated industry will look at eradication positively

2. which exotic pests and diseases, when detected in a beehive, could realistically be eradicated? As there is not a pest or disease (excluding the Africanised bee) that could be easily eradicated once it is in New Zealand beehives, why the hell are we pursuing this course? Our only hope of protecting our bee health is vigilant border security and importation bans

3. we also raised the question of how we (NBA) and/or the Bee Industry Advisory Council (BIAC) is going to fund the consultation process; once again, deathly silence from the CEO. Daniel, what's the plan? I'm concerned that this year's conference is being set up for a railroad job and the consultation process will be sidestepped as we can't afford it. Is that the plan, Daniel?

We at the Canterbury Branch are still very concerned that GIA will be a rerun of the South Island Varroa Pest Management Strategy (VPMS) and the epic failure that turned out to be. Our president stated in his February report that this time, it will be very different. We take issue with this. To reiterate, the South Island VPMS had:

- a strategic goal, being eradication
- an economic impact report prepared by MAF that stated that it was economically feasible to eradicate once every 10 years
- contributions (funding) from other stakeholders; i.e., regional councils and ratepayers
- a surveillance programme designed by the brightest minds in the country using the North Island experience to detect varroa at a point where it could be eradicated
- major funding from industry

My point is that all the pieces were in place for a successful outcome but we all know what happened. How can it be any different this time round? What could we have done differently so we would have got the result we were promised?

4. if it is going to be completely different this time round, tell us now what MPI has already told you to enable you to make that statement (or withdraw it).

In relation to Ricki's statement in the President's report, I would have preferred to play the ball as opposed to the player. The first article we wrote on this subject *[December 2013]* had a bullet-point reply; however, the questions we posed in the February journal were totally ignored. Has the other the player grabbed his bat and ball and gone home?

The Canterbury Branch looks forward to these four questions being answered, as I'm sure the rest of the readership is.

From Roger Bray, Central South Island Ward representative

It is great that our journal promotes some thinking within the beekeeping industry and also generates motivation for others to enter into discussion as Colin McLean has. *[See pages 12–13 of the February 2014 journal.]*

Colin has identified some issues that are particularly relevant consideration of the GIA: our industry is vulnerable to, and could be severely affected by, the introduction of exotic pests and diseases. In some ways Colin has identified the issues that exist for the beekeepers. We do support our continued freedom from exotic pests and diseases; however, we need to be assured that by entering into GIA we will be able to maintain that freedom from exotic pests and diseases.

We are an island nation and our people have signified to Government that New Zealand will be a far better place for our primary industries if there is some control of risk goods that importers wish to bring into our country. I believe the Government is not about to withdraw from its responsibilities of border protection and leave it to a bunch of beekeepers to rifle through inbound travellers' luggage at ports and airports to detect the odd pottle of foreign honey. Nor do I envisage a team of pig farmers searching through containers of fresh pork for signs of the pig-wasting disease; likewise, we will not anticipate seeing some dairy farmers sifting through containers of palm kernel extract for foot-and-mouth disease.

GIA is about Government setting some legislation that enables industries to better

Continued on page 15

Continued from page 13

protect their biosecurity interests. It does represent an 'opportunity' for increased protection and some industry initiatives for outcomes should an unwanted organism arrive. On the other hand, it also has the capacity to become a bottomless pit for funding that may not deliver on increased protection—merely increased costs on bureaucracy.

It is now nearly eight years since varroa was discovered in the South Island and nearly 14 years since varroa was discovered in New Zealand. It strikes me that there will be many newer beekeepers (as well many North Island beekeepers) who are not aware of the Varroa Pest Management Strategy (VPMS) and the similarity between the strategy and GIA. Perhaps an explanation of the VPMS will clarify the objectives.

The arrival of varroa highlighted that as a country, we were ill prepared for such a devastating pest to an industry that had significant flow-on effects to other primary industries. As part of the government response to the exotic incursion, there was an objective to maintain the freedom from varroa for the South Island. Considerable discussion between the government via MAF, beekeepers and other affected primary industries led to a proposal to have a pest management strategy to maintain that freedom by:

1. restricting movement of risk goods from the North Island to the South Island with a total prohibition on transfer of live bees and beehives from North Island to South Island
2. an intensive surveillance programme to detect any incursion of varroa early enough that would enable a response to be made with a view that eradication would be feasible
3. the Management Agency (for the VPMS) was also to arrive at agreement with government regarding any response and eradication provisions. This was termed the MOU (memorandum of understanding) and should have provided for items such as the technical feasibility to eradicate feral bee colonies.

In addition, the strategy provided for the 'industry' funding. Initially it was suggested that industries which were benefited by bees (pollination) were to be included in funding arrangements as 'stakeholders'; however, stakeholders were reluctant to provide funding (indeed, there was considerable difficulty in identifying all individual stakeholders so that annual accounts could be sent). Eventually the majority of South Island regional councils agreed to fund the strategy from their rating base. The strategy collected $750,000 with the beekeepers providing $200,000 by way of a per-hive levy.

Apart from the 'movement controls' that will be solely managed by MPI (via an Import Health Standard), there appears little difference between the objectives and provisions of both the VPMS and GIA. Both have a component of industry participation and funding, although with GIA there is an additional expectation that industry will co-fund any incursion response (including eradication attempt). It would also appear that industry would have an 'equal voice' with MPI and this could be important when deciding on an eradication path. Could this lead to a 'stalemate' where industry prefers an eradication attempt whilst the MPI may wish not to pursue that avenue?

I believe that beekeepers need to be aware of the relevance of the VPMS and GIA in order that an informed choice is made. Beekeepers should also be aware of how MAF, our industry and other primary industries reacted to both the varroa incursions in the respective islands. Whilst the world has moved on, any further incursions of pests and diseases into New Zealand beekeeping is likely to be met with similar issues that existed eight and 14 years ago.

[Editor's note: The Executive Council's GIA Committee has taken on board these points and will include them in the work programme it will be discussing with MPI.]

Advance Notice to NBA Branch Secretaries

2014 Annual General Meeting Deadlines

NBA Branch AGMs should be held by 1 May 2014

		Timing Prior to AGM	Completed by
2014 Annual General Meeting	**Thursday 26 June**		
Ward Rep nominations	To Executive Secretary	28 days	Thursday 29 May
Notice of Motions	To CEO	50 days	Wednesday 7 May
Proposals to alter Rules	To CEO	50 days	Wednesday 7 May
Branch Financial Reports	To CEO	50 days	Wednesday 7 May

Executive Secretary: secretary@nba.org.nz, CEO: ceo@nba.org.nz
Phone: 04 471 6254

Effects of abamectin on pollinating bees

By Don MacLeod, Committee member

Following is a case study written as a result of concerns raised about the use of the translaminar insecticide abamectin, in the presence of pollinating bees.

Chronology

3/10/2013: Mossops Honey moves 320 beehives to pollinate a large avocado orchard.

4/10/2013: I attended a meeting at the head office of Mossops Honey. On the way home, I was phoned to discuss the wisdom in the spraying of this crop with AVID® (abamectin) insecticide, with the bees present.

The crop manager proposed spraying the orchard three days after placing the bees in the orchard with AVID® to control red mite, and to conduct that spraying at night on the basis that the active ingredient (abamectin) would be absorbed by the plants by the next morning and not present a risk to bees.

The orchard owner objected to the commencement of spraying as the pollinating bees had just been placed in the orchard. The owner sought extra information; hence his enquiry to the apiarist.

5/10/2013: My research showed that:

Abamectin is a translaminar insecticide that is "Highly Toxic to bees". (Translaminar means the spray enters the plant leaf and remains there, where it is available to sucking insects on both sides of the leaf. It does not move up or down the plant.) Abamectin has an LD50 value of 0.41 µg/bee toxicity value (US EPA, 2010). (µg = microgram)

The AVID® label warning is very clear that the product should not be applied to plants in flower. The label reads, "Toxic to bees. Spray must not contact plants in flower if they are likely to be visited by bees."

AVID® is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds.

Abamectin breaks down on foliage after application. The primary breakdown process is by photo degradation (sunlight). Therefore, foliage residues of abamectin from spraying will not break down until the next day after evening spraying.

Abamectin has a half-life of approximately 10 hours when exposed to sunlight.

Testing on citrus foliage showed that the product would still be toxic to bees up to two days after spraying.

Percent mortality of bees based on hours post-treatment: 1 hour: 100%; 8 hours: 57%; 48 hours: 13%.

Cumulative bee losses could be significant if exposed to abamectin residues on foliage and flowers after application.

I have yet to see any independent verifiable data indicating that abamectin is rapidly absorbed by the plant. We agree with Syngenta that sprayed product is absorbed by the plant.

Based on the above data, I would recommend only moving bees into an orchard, say, five days after treatment with AVID®, and that no further spraying be conducted until the bees have finished pollination in the orchard.

7/10/2013: I emailed the Territory Managers of Syngenta New Zealand to raise my concerns with the use of the product. I used their New Zealand website for contact (http://www3.syngenta.com/country/nz/en/Pages/home.aspx).

14/10/2013: Mossops Honey had been in touch with New Zealand Avocados (the New Zealand Avocado Growers' Association & Avocado Industry Council Ltd). New Zealand Avocados had supplied a copy of the abamectin page in the *Novachem New Zealand Agrichemical Manual 2013*. The warning in this manual is a very different warning to the warning on the AVID® label. The warning about bees from the Novachem manual 2013 states, *"Toxic to bees on contact but the residual effect disappears after a few hours."* (*Novachem New Zealand Agrichemical Manual*, 2013.)

15/10/2013: I received a written reply from John Yates (Syngenta's Customer Marketing Lead in New Zealand), with respect to my questions raised on 7/10/2013. From this date I have had email contact with John, who has been most helpful. With respect to my concerns, he agreed to contact overseas staff for advice.

I also had a phone call from Glenys Parton, Projects Manager at New Zealand Avocados. They had relied on the Novachem manual for setting their spray programme, not the product label.

16/10/2013: I asked Syngenta for data about the half-life of abamectin and nectar and pollen residues, as it is a systemic insecticide.

John Yates passed on my data (see 5/10/13 above) to Michelle Hickman, Syngenta's Regulatory Affairs Manager based in Sydney.

21/10/2013: Reply received from John Yates, *"Hello Don, We are further exploring the questions you have asked with our global product safety team in the UK, and will also be discussing the issue in a general sense at this week's AGCARM meeting. We will be back in touch on the matter later this week. Regards John".*

4/11/2013: Syngenta's overseas recommendation is received and is not to allow bees to enter sprayed foliage for 24 to 48 hours after application on flowering avocados. Syngenta did suggest blocking the hives to prevent bees accessing the crop for 48 hours, but pointed out that the product should have been applied well before the hives were placed in the orchard.

7/11/2013: New Zealand Avocados is organising an advisory group to give the

avocado industry guidance on best practice for using agrichemical sprays when bees are used to pollinate avocado orchards. To date (10/2/14) we are not aware if the group has been formed or if the group has met.

14/11/2013: Paul Hassan from Syngenta advised that their recommendation is to comply with the bee safety statements in the precautions section of the AVID® label, stating, "It is apparent that there are instances where 'current practice' may not conform with the intent of the label. We recognise this is not acceptable, we don't endorse it, and we are committed to working with all parties to ensure grower's pest control practices don't harm bee populations."

What can beekeepers learn from this real-life case study?

1. Be extremely careful when 'experts' (in this case, the orchard manager) use personal experience to support the use of a pesticide. When common practice ('how we do things round here') deviates from best practice (the label recommendation), beekeepers and growers can be putting bees and hives at risk.
2. The claim that if spraying is done at night, there will be no plant residue in the morning is not true. Moonlight has a minimal effect on photo-degradation of the chemical. What if there is no moon the night it is sprayed? Evening/night spraying only protects foraging bees at the time of spraying.
3. The Novachem manual is not always an accurate document for verifying details for the use of abamectin. Refer to my article in the February journal (MacLeod, 2013). The product label is the best source when seeking best product use practice.
4. Most multinational chemical companies no longer employ senior experienced technical staff in New Zealand. Syngenta has a problem in ensuring timely technical advice to the sales and marketing staff that represent the company in New Zealand. Time delays: eight days to reply to my email query, then 19 days for UK advisors to get back to Syngenta NZ staff with a response. These responses should be within 24 hours at most.
5. The crop manager should be smarter in his planning—no argument. They knew when the bees were to arrive on site and proactive planned management would have seen the insecticide applied safely prior to their arrival.
6. John Yates from Syngenta told me, *"Syngenta does take bee safety seriously and this will be a good case study to see what specific data is available to support the current grower practice for mite control on avocados in New Zealand."* (16/10/2013).
7. Syngenta NZ have advised that they intend conducting trials this 2014 pollination season to determine the safety of AVID® when used when bees are pollinating avocados. This could result in a possible label change for the 2015 season. Beekeepers should welcome this research.

Beekeepers, we need more of these case studies. Please report to your Executive Council ward representative what has affected you this season so we can follow it up.

Acknowledgements

Thank you to Syngenta for their actions and allowing this case study to be published.

This article has included a contribution by Paul Hassan from Syngenta.

I have been advised that the misleading claim in the Novachem manual has been corrected on the Novachem website.

References

MacLeod, D. (2013). Sulfoxaflor, dimethoate and the AVID® label. *New Zealand BeeKeeper, 22*(1), 7–9.

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United States Environmental Protection Agency. (2010, 24 February). Ecological risk assessment evaluating Abamectin for the registration of a new end-use product (Agri-Mek®SC Miticide/Insecticide) for use on almonds, walnuts, apples, avocados, celeriac, citrus, cotton, cucurbit, fruiting vegetables, grapes, herbs, hops, leafy vegetables, mint, pears, plums, prunes and potatoes. Memorandum DP Barcode: 365085; PC Code: 122804. Retrieved 22 January 2014 from http://www.epa.gov/pesticides/chem_search/cleared_reviews/csr_PC-122804_24-Feb-10_a.pdf

Send us your burning questions!

Do you have a burning question about beekeeping? Are you worried about your beeswax? Mystified about moths moving in? Need help dealing with varroa and other pests? Well fear not, help is at hand.

Every keen beekeeper has a list of questions they'd love to know the answers to. Luckily, the NBA has local beekeeping brainboxes on hand to answer any beekeeping-related queries, from giving your hives a helping hand to sussing out your swarms. Whatever your question, simply email it to editor@nba.org.nz and we will post the answers in a future issue of *The New Zealand BeeKeeper.*

'Two striped' bumble bees sought

By Katie Ashley, Plant & Food Research Ltd, Bisley Road, Ruakura, Hamilton

I am studying bumble bees for my MSc thesis through Massey University.

Alastair Robertson is my principal supervisor, and my co-supervisor is David Pattemore from the Pollination and Apiculture team at Plant & Food Research in Hamilton. My project is part of a wider six-year research programme on bumble bees in New Zealand.

For one aspect of my thesis I am interested in generating an updated map of species distributions throughout New Zealand. It has been almost 20 years since this was last done and using modern genetic techniques means far greater accuracy can now be achieved.

There are four bumble bee species currently known to be present here as a result of introductions from England around 1900. Two of these, *B. ruderatus* and *B. hortorum*, have very similar morphology and markings (two yellow stripes on the thorax) and this means they can easily be confused. In the UK, genetic analysis is now being used to distinguish the two species and we wish to use that same method here.

I am seeking specimens of these 'two striped' bumble bees from all regions of New Zealand to carry out this genetic analysis. If you see any bumble bees that look like those in the images supplied, please catch them,

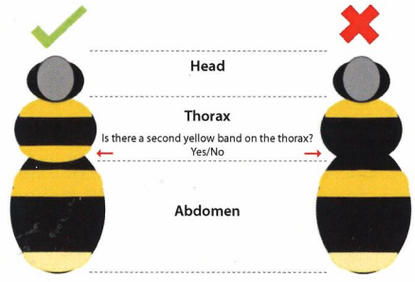
If the bee clearly has only one yellow band on the thorax, then it is Bombus terrestris *and is not required for this collection.*

place them in the freezer overnight (this is a common and well-accepted method of euthanising insects) and send them to me at the following postal address (the courier address is listed at the end of this letter, also c/o David Pattemore):

Katie Ashley c/o David Pattemore
Private Bag 3230
Waikato Mail Centre
Hamilton 3240

Extra information

- When collecting specimens, it is possible that all bees within relatively close proximity are from the same hive so it is a good idea to only collect a few from each area they are seen in.
- As the hive grows, workers produced become bigger so a small bee and a rather large bee in the same area could be from the same hive. Even the smallest bees can be used for genetic studies, so don't worry about size when collecting.
- Take care when collecting specimens, they can sting!
- It is possible for these bees to be coloured very dark or completely black; these specimens are still useful for genetic testing. If in doubt, send it in!
- Please include the most accurate address possible for where the bee was caught as well as a brief description of what it was doing at the time; i.e., foraging on agapanthus, crawling across pine needles in leaf litter, flying over lawn, etc.
- Absolutely any location in New Zealand is suitable for this collection.



If you have any questions about the content of this letter or the collection process, please do not hesitate to contact me at katie.ashley99@gmail.com.

Auckland Branch

It is with sadness that we report the sudden and unexpected death of Trevor Cullen's wife, Rejieli, on 24 January 2014. Her funeral service was attended by many beekeepers and members of the Rotuman community, of which Rejieli was a member. Her Rotuman friends provided beautiful music for the service. Our thoughts and condolences go to Trevor, Pete and Ida and Rejieli's mother, Harieta.

As for the honey flow, it seems as though the promise of spring has not followed through into summer. Word is that the flow seemed to stop just before Christmas and it hasn't really resumed, so there are some disappointed beekeepers about.

There are concerns that, as in other regions, hives have been appearing, unannounced, close to established apiaries. We're not sure what has happened to the time-honoured protocol of keeping apiaries a respectful distance from each other so everyone gets a fair go.

- Helen Sinnock

Waikato Branch

This month has been all over the place. The honey flow started early and caught a few beekeepers out. The weather has been hot and, until recently, very windy. The nights and mornings have been cool. As usual, once school starts it really heats up and taking honey off is pretty sweaty mahi (work)!

The rewarewa flowered magnificently this year here with good crops reported. The manuka has been spasmodic with reports of little honey collected around the west coast, but still hopeful further south. The clover is looking good though, gums are flowering, heaps of pennyroyal around; however, the paddocks are starting to dry out, the ground is really hard and some farmers have already dried off their herd and are feeding out.

The hives are looking pretty bonny though. Happy harvesting!

- Barb Cahalane

Poverty Bay Branch

The honey harvest on the East Coast this season has been patchy. After a great season last year, beekeepers are always hopeful. The manuka crop is down: less than half of last year's bumper crop and is below average.

Multifloral has produced a good crop in most areas so will help a bit for beekeepers that are diversified in their cropping. With regular rainfall over the summer, farms have stayed relatively green and multifloral honey flows have continued on into the autumn.

Varroa levels are very low at present but are likely to rise quickly over the next two months.

- Paul Badger, Branch President

Hawke's Bay Branch

It looks like we should achieve an average honey crop in Hawke's Bay this year. Most areas are a bit dry but not too bad, and we may get an ongoing flow into February if the weather clears up. For some reason varroa doesn't seem to be developing as quickly this autumn as it has in the last few years.

- John Berry, Branch President

Southern North Island Branch

Honey flows have been very varied in our area. Manuka, on the whole, was very disappointing. I've had reports that very little came in, with the occasional report of a reasonable crop.

The weather alternated between rain and strong winds while manuka was in flower, making it hard for the bees to gather nectar. Clover yields are also down, but the more settled weather in February can still bring in a crop.

It seems that during January the bees ate just about as much honey as they collected—very frustrating when boxes are stacked three high in anticipation of a crop, only to find that the centre frames are capped and the rest are bare, or the queen has been laying right up through the centre of the boxes. That's good for making splits, but not good for honey yield.

New Zealand Apiculture Industry Conference

Conference planning is proceeding and overseas speakers have been contacted. Expect a full programme from Sunday 22 June through to Thursday 26 June, when the AGMs for Federated Farmers BIG group and the NBA will be held. The AGMs will be scheduled at different times so that attendees may attend both meetings if they wish. Full details will be provided as an insert in the April journal.

Information will be forwarded to sponsors/trade exhibitors shortly but if more detail is required, please contact Neil Farrer or email our special web address beeconference2014@gmail.com

- Neil Farrer, NBA Life Member

Canterbury Branch

See page 13 for articles reflecting the views of the Canterbury Branch and the Central South Island Ward representative on GIA.

Otago Branch

Another few days of summer lined up in early February. Otago beekeepers are relieved to see some honey arriving at last but many are in a bit of a tight spot. On the one hand, bees are finally able to gather a late crop on the remaining flowers, but meanwhile the critical treatment point for varroa has arrived.

It is very unfortunate that we have such a late season when many areas are in the worst phase of varroa with collapsing ferals. Some have had to pull crop boxes off 'early' in order to treat hives. So the good news is there is a small crop coming in, but the bad news is that it's a tightrope walk with the timing of varroa treatment.

We probably will need to set up a system of swarm collection in the bottom of the South Island. This year my contact number is on the NBA website (as well as on page 27 of this journal), and I have set up a group of 12 'swarmers' through the Dunedin Beekeepers Club.

I've had probably 25 requests about honey bees, 10 about bumble bees (now up to 11 as of 9 February), and one about wasps (thus far). Not to mention numerous calls from Queenstown, Invercargill, Edendale, Winton, Palmerston and other places. And many more swarms have been collected close to apiaries and by word of mouth. We will draft a proposal, as swarms and flying beasties seem to cause a lot of anxiety.

- Tudor Caradoc-Davies, Branch Secretary

Winding down for the season

By Frank Lindsay, NBA Life Member

It's March and honey production is over.

Beekeeping work carries on nonetheless: checking for disease, removing honey, extracting, requeening, treating for mites and setting hives up for winter. Winter? In some areas, hives are swarming!

As I write this in mid-February, the bees are bringing in nectar, pollen and propolis but I'm seeing the early signs of autumn: cooler, longer nights with dew in the mornings. Clover is still producing nectar on hot days in those areas of New Zealand that had sufficient rain to keep it going. Other species flowering include gorse, catsear, fennel, crimson eucalyptus and a white flowering gum (small flowers, 9–19 per bud cluster), plus white rata. Crimson rata is just about to flower.

At the same time I'm seeing some of the autumn sources already in flower: koromiko (hebe), pennyroyal and lancewood. I have even had a report that broom is flowering again. Has this flush of pollen and dribble of nectar stimulated swarming in some areas? Just yesterday a log hive I was allowing to build up swarmed before I had time to dismantle it. The swarm is now hanging in the top of a neighbour's tree.

Some hives have been producing supersedure cells to replace a failing queen. Perhaps instead of the new queen killing off the old queen and the developing queen cells, the bees have pushed her out and half the bees left with her.

Other hives have brood into the second super and a frame of brood in the third. Hopefully while this last lot of nectar comes in, the bees will deposit enough in these brood frames to crowd the brood into the bottom super.

Some other hives are happy with their queen and have started forcing the drones onto the bottom board. Not a good sign for those of us that want to keep producing queens through to the end of March.

Robber bees and wasps

In some North Island areas, robbing has already started. Nectar production has stopped altogether, so field bees with nothing to gather probe the defences of colonies within flying distance around them. Any colony that can't defend itself will be robbed out. When this happens, a stinging frenzy sometimes develops.

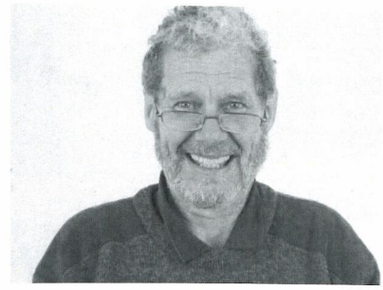
Working hives during robbing season means that frames cannot be left exposed for more than a few minutes. Use covers or cloths to cover supers while inspecting brood nests. If robbing occurs in a suburban garden, simply reassemble the hive, close down the entrance or cover it with wet grass and turn on the garden sprinkler. This will allow the hive to re-establish its defences again while robbers are put off by the water. You can tell a robber bee by the way it flies in front of the hives. She will fly in a jerky, nervous manner rather than going straight in.

Wasps are also prowling for sucrose and when plants and trees have finished secreting, wasps look for weak hives but can be more destructive. They will totally clean out a hive of bees, brood and honey, and once they have the smell of a beehive on themselves, they will go straight into the next hive without being challenged and clean that out. This pattern will continue until all the hives in an apiary are dead. This generally happens in 'plague' years (when wasps are in large numbers everywhere). It may also depend on the type of bee you have. Carniolans, I am told, defend their hives better than Italian stock.

> "Wasps … can be more destructive."

You can assist the bees to defend their hives by putting on winter closures, or reduce entrances on strong colonies to 100 millimetres by seven millimetres and down to a couple of bee widths on nucs.

If wasp numbers are high, look along banks and down ravines for nests or try putting



out a jam bait to get them feeding. When a good number are feeding, add a little flour or carbaryl powder (wasp killer) over the wasps to coat them and watch them as they fly home. The only problem with carbaryl powder is that wasps can detect its scent, so you have to be careful in its use (place it around the bait so they walk through it, for instance).

In severe cases of hive robbing, I have closed the hives completely and dusted the wasps when they have accumulated on the landing boards. I then washed the powder off when their numbers reduced. An alternative for some is to move the apiary completely.

Two good points about wasps: they collect nectar and eat blowflies and caterpillars for protein. Some of that nectar could be honey dew from tutu bushes. The downside, perhaps, is that wasps also could have been collecting manuka nectar.

Extracted supers

Most of our hobby beekeepers will have removed their surplus honey and extracted it, returning the supers in the evening for the bees to clean out.

You should leave these supers on the hives for a month or two longer for two reasons. Some years (one in 17), the bees will fill a super from a late-autumn flow and in the hive, the bees will protect the frames from wax moth. It only takes a few weeks for wax moth to make a mess of your frames and without the aid of chemicals, it's best to let the bees protect them.

Other beekeepers store the supers wet (straight off the extractor) in a dry environment to stop fermentation of the remaining honey, or freeze them to kill any wax moth eggs and larvae.

Continued on page 23

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Our internal laboratory is the only commercial laboratory in New Zealand that can carry out in-house testing for Caffeic Acid Phenethyl Ester (CAPE) and one of only a few that can test for major bioflavonoids.

Manuka Health's propolis products are tested and certified according to the levels of bioactives in them.

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Because propolis with higher levels of bioactives has a greater value, Manuka Health has introduced a new payment schedule to compensate you for your raw propolis based on the levels of bioactives.

Please contact John Connor or Keith Rodie for more details on the premium payment.

Manuka Health will supply you with propolis mats and, once returned to us, we will extract the propolis, test it and provide you with the results before returning the mats to you for reuse.

For more information please contact John Connor or Keith Rodie

John Connor Email: johnc@manukahealth.co.nz
249 Bruce Berquist Drive, Te Awamutu
Phone: (07) 870 6555, Fax: (07) 870 6556

Keith Rodie Email: keith@manukahealth.co.nz, Mob: 021 994 516

Continued from page 21

For those still to take honey supers off, it's a guess as to how much to leave. Bees will survive on sugar syrup if all the honey is removed, but they winter better on honey. I winter my hives three high with at least a full super of honey, with honey and pollen in the second super. It seems like a lot but our main honey flow starts in late October and to take advantage of this, I leave the hives strong with plenty of honey, which the bees turn into early brood.

Those with the main honey flow in December can winter in singles (minimum of six frames of honey) if they are prepared to feed continuously in the spring (every two to three weeks, depending on the size of the feeders). Most opt to winter in doubles with a full super of honey in the second super, and feed in the spring to stimulate brood production for early splits.

It doesn't really matter how big the container the bees are hived in (half-width, 3/4 frame baby nucs to full-size hives): successful wintering is dependent on the bees filling the chamber so they can establish a compact cluster and access to ample nutrition to carry them through.

So the judgment for most is how much to take off, knowing that some hives will continue brood rearing into the autumn. If you take too much, you could be topping up the hives with sugar syrup so they survive through to August when you will have to start feeding again. It's up to you to decide. It depends on what you are planning for the coming spring and your financial position.

Requeening and queen rearing

Queens should be replaced every second year but even then, some will fail during the winter. It's easier to purchased mated queens and introduce them into a nucleus first, to get them laying before dequeening and introducing the nuc to a full-size hive. Queens are easily to replace if both are laying at the same rate, producing the same amount of pheromones.

Queen rearing can be fun but also disappointing. Everything rests with the preparation. The hives you intend to graft from (your best hive) and the one you intend to raise the queen cells in (your second best hive) should be fed sugar syrup and pollen to simulate spring conditions. If you don't have pollen, scrape down and mash up the pollen and honey from an outer brood frame and dribble it over the brood nest. It makes it easier to graft when the tiny larvae are floating on a pool of royal jelly.

To make a cell builder colony, set up a single super hive with a small entrance. Take five to six frames of emerging brood and bees, put them into the super with honey and pollen frames as well and place it in front of a strong hive. Turn the original one around to face the opposite direction. The flying bees from this hive will fill the new queenless hive and will be bringing in valuable nectar and pollen.

Leave for two days and then shake off the bees from each frame of brood, destroying any queen cells the bees have started. When the bees realise they are queenless, they will accept a bar of cells. (I put 18 cell cups on a single cell bar.) You can place the cell bar in the cell-building hive for 24 hours before grafting for the bees to clean and polish, but this is not necessary with new plastic cells.

Grafting tools

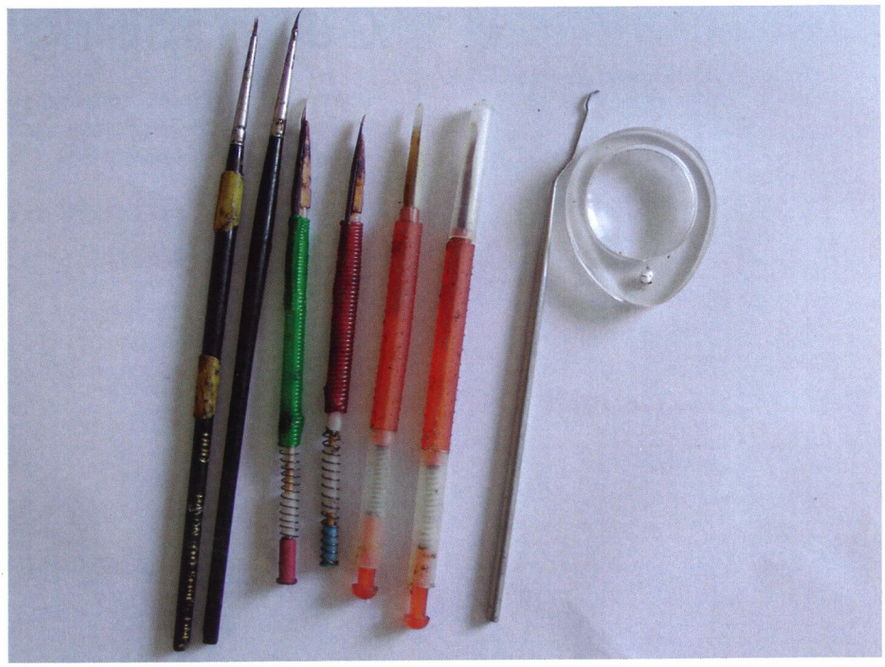
There are a lot of different grafting tools available, including a size 000 (triple zero) sable artist's brush, a specially designed grafting tool, or you can simply chew a twig so that it has a soft tiny tip. I prefer to use a Chinese grafting tool as it's easier to use. The other types require you to twist off the tiny larvae onto the bottom of the cell and with only one good focusing eye, I don't have the depth of field to do this.

Select a frame with just-hatched larvae from your best hive and brush off the bees. One method is to introduce a fully drawn frame into the brood nest of your breeder queen hive four days beforehand, so you know any larvae in the cells are less than 24 hours old. Others just go through the hive until they find a group of larvae that have just hatched and use these.

I do my grafting in the cab of my truck. I have made a board that goes on the steering wheel to support the frame, and I borrow my wife's cross-stitch magnifier with LED lights, which provide a cold light.

Spray the windows of the cab about four times with a mister until the side windows mist up. This is very important as it prevents the grafted larvae from drying out. An alternative would be to cover the grafted cells with a damp tea towel.

Using a Chinese grafting tool (or even a chewed twig), carefully insert the tongue of the tool under a larva that is no bigger than an egg and transfer it into the cell cup by pressing in the end of the tool (which pushes the larva and royal jelly off the tongue), while slowly withdrawing the tongue from the cell. The larva is deposited into the bottom of the cell cup still on its royal jelly. Any larvae that are rolled or take more than one attempt to pick up or place down should be discarded, as they will drown. →



Grafting tools: 000 sable brushes (at left), old and new versions of the Chinese grafting tools (centre) and a metal grafting tool with a magnifier that slots on to the tool (at right). Photo: Frank Lindsay.

Feed the hive after the cell bar is put into the hive and close it up. You can check again in three hours if you like to see how many have been accepted. Accepted cells will have the larva sitting on a pool of royal jelly and the edges of the plastic cell cup will have started to be drawn down. First attempts result in quite a few failures, so the graft can be replaced on those that are missed.

Now to the disappointment. The cells are transferred on the 11th day after grafting into queenless nucs made up a day earlier so the bees know they are queenless. When I went to get my last graft, all the cells had been torn down as I had missed an emergency queen cell the bees had made on the bottom of a frame of brood. An inspection of the frames found a virgin queen happily going about her business. She was caged and put into a nuc and the whole process started again, this time with an extra frame of emerging brood and a shake of young nurse bees. By adding brood and bees, the queenless cell builder will keep going for three or four grafts.

Other cell building tips:

Pollen in the hive is not sufficient; it must be in the stomach of the bees for them to produce royal jelly.

It pays to mark your queens so that a queen is not introduced inadvertently into the cell builder hive.

Always brush off the bees from frames and queen cell bars as shaking can move the young larvae in their cells or damage the wing buds of the new queen in the cell.

Handle completed cells carefully. Dropped cells should be discarded.

Leave the cell cups pointing down.

If you have done everything right, there should be a plug of royal jelly still in the cell cup after the queen has emerged.

When you have your queen cells, each can be introduced into a queenless four-frame nuc (two of honey and pollen and two frames of mostly emerging brood), or protected and pushed between the frames near the brood nest of a hive with an old queen. There's no need to find the old queen if you don't want to, as 80 percent of these queens emerging from the cells will dispatch the old queens and take over the hive.

If you intend to follow this course of action, make up some additional nucs to produce queens to replace those hives that fail to mate or produce a new queen. Not all queens return to the hive they came from. Cells can be protected using a piece of irrigation hose or wrapped in aluminium foil lunch wrap around the cell, except for the end where the queen emerges.

The protector stops the hive bees from tearing down the cells before the new queen emerges.

Things to do this month

Remove all comb honey frames. Remove and extract surplus honey—those frames that are not fully capped should be shaken to make sure the honey is dry; otherwise, leave it for the bees. Don't forget to do an AFB check before removing any honey. If bees are robbing, mark the supers and check the hives once the honey is off. Return and burn any that are diseased.

Requeen hives. Now is the best time to get queens mated while it's still warm and there are plenty of drones about. Queen producers should also have mated queens on hand if required.

In some areas, it's time to winter down hives. Replace any woodware that requires attention. Keep an eye out for wasps and close down entrances so the bees are better able to defend the hives against them and to stop mice getting into your hives.

Monitor mite levels when miticide treatments have been completed. Results with organic treatments can differ from hive to hive.

New North Island apiary registrar

Bob Derry retired from AsureQuality Limited on 22 January.

His replacement is Sheryl Bertram sheryl.bertram@asurequality.com, ph (07) 850 2837 or fax (07) 850 2801.

We wish Sheryl well for her new role, and convey our best wishes to Bob for a long and happy retirement!

A full list of apiculture officers and registrars will appear in the April journal.

Get snapping

Autumn is nearly upon us, so it's time to start taking some photos to enter in the sixth annual Ecroyd/NZAI photography competition, to be held as part of the New Zealand Apiculture Industry (NZAI) Conference, Wanganui, 22–26 June 2014.

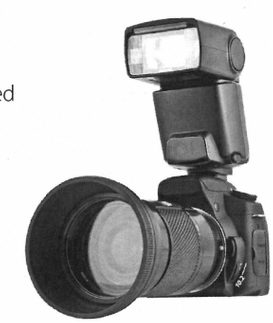
Entries will be accepted in the following categories:

Class A. Close-up print. Subject must relate to beekeeping.
Class B. Scenic print. Apiary subject such as flowers, hives etc.
Class C. Portrait print. Person, beekeeping procedure, honey, hive by-product processing in appropriate setting, commercial frontage or beekeeping base.
Class D. Essay prints. A set of from 4 to 7 pictures depicting a beekeeping story.

The photo competition is open to all registered members of the **NBA and BIG.**

As an added inducement, winning photographs will be published in *The New Zealand BeeKeeper*, perhaps even on the front cover if taken in portrait format.

For more information, contact Mary-Ann Lindsay, lindsays.apiaries@clear.net.nz



How New Zealand *really* got its honey bees

By Dr. B. J. Donovan, Donovan Scientific Insect Research, Private Bag 4704, Christchurch 8140, New Zealand.

The article by Mary M. Bowman entitled `How New Zealand got its honey bees' which was originally published in 1905, and which was reprinted in the February issue of *The New Zealand BeeKeeper*, presents inaccuracies.

The article says "the story of how New Zealand procured its Ligurian or honey bees, which transformed it from an annual importer of red clover seed into an extensive exporter of that important factor ..." implies that the Ligurian bees that were successfully imported from California in 1880, were the first honey bees to be established in New Zealand. In fact, the first honey bees to be successfully imported to New Zealand were two straw hives from England, that reached Mangungu in Hokianga, North Island, on 18 March 1839 (Barrett, 1996). The bees were the subspecies *Apis mellifera mellifera*, the population of which in Britain is sometimes referred to by the British as the `British brown bee', which in New Zealand is actually more black than brown. The first bees to be established in the South Island were of the same subspecies and were imported from Australia to Nelson where they arrived on 18 April 1842 (Barrett, 1996).

The bees thrived and spread rapidly over the country, to the point where Cotton (1848) wrote a manual for beekeepers in New Zealand.

According to Barrett (1996), Bowman (1905) is correct in that the first successful importation of Ligurian bees (the subspecies *Apis mellifera ligustica*) did indeed arrive at Auckland from Los Angeles County, California, in 1880. This subspecies, of which the bees are very yellow, originated in Liguria in Italy.

However despite the establishment of two subspecies of honey bees, yields of red clover seed remained low, and in most years Hopkins (1914) observed few visits to red clover by his Ligurian bees near Matamata. But, following the establishment of bumble bees in 1885 and reports of numerous bumble bees visiting red clover flowers, large increases in yields were recorded. As long as bumble bee numbers remained high, so did seed yields (Hopkins, 1914).

Bowman (1905) says, "New Zealand is unquestionably deeply indebted to California ...but...there has been no substantial acknowledgement of the debt". But because it is certain that Ligurian bees were not the first honey bees to be established in New Zealand, and also that bumble bees were responsible for the improved yields of red clover seed, there is no substantial debt to acknowledge. Nevertheless, I'm sure New Zealand beekeepers are very grateful for the help Californians gave towards establishing the Ligurian subspecies here, because it is the subspecies that underpins our apicultural industry.

References

Barrett, P. (1996). The Immigrant Bees 1788 to 1898. *A Cyclopaedia on the Introduction of European Honeybees into Australia and New Zealand.* Published by the author, Peter Barrett, 1 Banjo Place, Springwood 2777, N. S. W., Australia. 186 + 15 pp.

Bowman, M. M. (1905). How New Zealand got its honey bees. In *The New Zealand BeeKeeper* (2014, February), *22*(1), 25–26.

Cotton, W. C. (1848). *A manual for New Zealand beekeepers. Wellington*, New Zealand. 112 pp.

Hopkins, I. (1914). History of the bumble bee in New Zealand. *New Zealand Department of Industries, Agriculture and Commerce Bulletin No. 46 (New Series):* 29 pp.

Who do you call?

Recently the Secretariat has been receiving a lot of calls regarding hive registration and pest management issues, most of which we are unable to answer as those issues are dealt with by other entities. So, to make it easier for you to know who to call for what we thought we would give you an easy reference guide.

AFB RECOGNITION COURSES

Rex Baynes – Manager, AFB NPMP
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NBA Branches: First named is President/Chairperson. The second named is Secretary.

NORTHLAND
Interested parties wishing to start this branch up again, please contact Neil Stuckey 09 415 5931 (wk) or neil@whoney.co.nz

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Email: maureen@wildforage.co.nz

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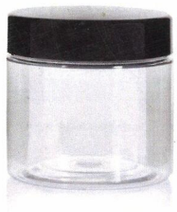

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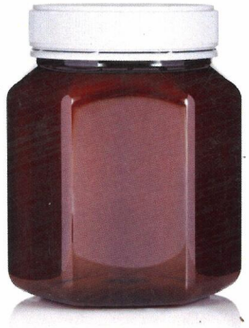
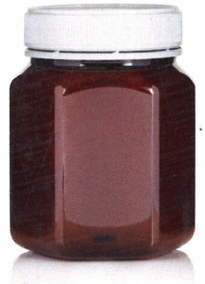
340gm Round Jar
(coming soon)

250gm Round Jar



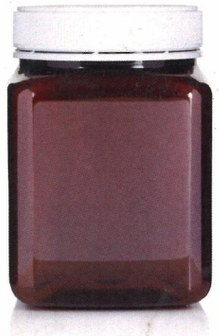
2kg Hex Jar



1kg Hex Jar

500gm Hex Jar

250gm Hex Jar



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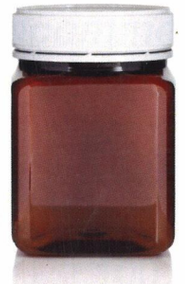

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