October 2011, Volume 19 No. 9

The NEW ZEALAND BeeKeeper

GIA: The future of biosecurity in New Zealand

- Focus on pest and disease control including AFB, varroa and Psa
- More on top bar hives • Bee research priorities

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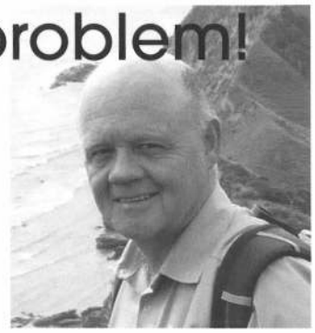
Varroa resistance—a looming problem!



By Barry Foster, NBA President

There have been numerous developments on various issues over the past month. Your Executive Council held its last face-to-face meeting this year in Wellington on 9 September.

They will not meet again apart from via conference calls until 17 February. We have had a lot of current issues to engage with, and without going into too much detail I have summarised in this report some of the main issues affecting beekeeping now and in the near future.

Looming varroa resistance to synthetic controls

This year the Government, through the Local Government and Environment Select Committee, instigated a number of presentations followed by briefing papers on the topic of pollinator security. It followed a report from the United Nations in 2010 on global pollinator security. The National Beekeepers' Association submitted orally in May, followed by a briefing paper to the select committee in June. Dr Mark Goodwin of Plant & Food Research spoke at length to the select committee early in September, issuing a warning to them of the looming resistance by varroa to synthetic controls as the greatest threat facing our industry and hobbies. He said that some beekeepers are aware of the problem and taking steps to address it, but many are unaware enough to protect themselves and are underestimating the large impact that resistance is likely to bring.

Dr Goodwin told the select committee "varroa resistance is a bigger problem than varroa". Education is a key and the need to effectively monitor your hives and detect levels of developing resistance is crucial to maintaining healthy hives. Alternating treatment types and monitoring hives are messages that have been around since varroa was first detected in the year 2000. We are about to enter a whole new chapter on the history of beekeeping in this country and it may be a turbulent one at that, as easy-to-use controls for varroa become ineffective and beekeepers have to work smarter in adapting to the alternative controls.

The Executive Council plans to continue to lobby members of the select committee on pollinator security and keep this issue to the fore, particularly when a new government is formed after the general election in November.

Government Industry Agreements (GIA)

In this issue and the April 2012 issue that goes out to all registered beekeepers we will be publishing information on GIA for you to read. The first of this can be found in this month's issue as a separate insert. In addition, part of the 2012 NBA conference seminar in Hawke's Bay will feature a time slot to run a practical demonstration as to how GIA will work for us in practice during an incursion and response.

> "The GIA as it stands leaves all industries affected, including ours."

On the downside, we will be defending the indefensible to suggest that any prior consultation with our industry during the development phase of the GIA actually happened to any great extent. The beekeeping industry, like other smaller agricultural industries, was largely ignored and left ill informed during this development compared to the larger agricultural industries who, have been better informed. MAF is adamant that the GIA will not change, apart from minor amendments, and our industry is just one amongst all agricultural industries affected by it. The plan is in place and the Government is determined to push this through. Our trading partners in UK and Australia have and are developing variations of GIA to suit their own situations, and this would have given added impetus for New Zealand to develop its own version. The main thrust of the GIA is to improve New Zealand's biosecurity through improved readiness and response systems. The GIA as it stands leaves all industries affected, including ours.

In the latter part of the current process the NBA was informed and the Executive Council and secretariat have now been briefed by MAF on GIA with further briefings to come. One decision left to be taken for our industry after the June 2012 start date for GIA is to decide whether to pay the levy and have consultation with MAF in developing incursion plans, plus having a seat at the response table when one occurs, or to just pay the levy and have no say.

It is expected that any decision to sign up to GIA or not could be up to a year after June 2012.

Apimondia 2011

By the time this issue gets to you Apimondia 2011 in Buenos Aires will be over, having run from 21–25 September. Maureen Maxwell was the National Beekeepers' Association's representative at this Apimondia and has been elected to a further position of Regional Commissioner for the Oceania region for Apimondia.

The rationale for developing what will be five Apimondia regional commissions is to provide Apimondia with a more balanced executive council and, of course, a better organisation to help beekeepers globally. We are proud to have Maureen as our new Regional Commissioner as this new position will strengthen our links globally on a level that has not been present previously.

Continued on page 6

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Continued from page 4

We congratulate Maureen and wish her well in her new position. The National Beekeepers' Association has been a member of Apimondia for quite some time.

The Trees for Bees project

One of the precursors for large-scale colony losses overseas is suspected to be declines in volume and diversity of bee forage, particularly pollen sources. The Sustainable Farming Fund funds the Trees for Bees project with contributions from Federated Farmers and the National Beekeepers' Association. It is a three-year project involving research conducted by Dr Linda Newstrom Lloyd of Landcare Research at Lincoln. Three focus areas for this research have been located on farms in Canterbury, Waikato and Gisborne/East Coast regions. The project's aim is to research the best mix of protein sources for bees in times of dearth and demonstrate how planting appropriately can improve bee survival and health. The project will also research the protein values of various pollen sources, particularly those from native plants. The Trees for Bees project can be viewed under the website of the same name. I wish you all a good season.

Stainless steel mesh for varroa

This is a photo of a sticky board I have just taken from a hive in my apiary today [15 September]. I dosed them with Apivar strips yesterday. This hive was treated for varroa in the autumn but due to the mild winter had become re-infested. I have now put stainless steel mesh on all my hives and have been surprised by the number of mites falling naturally through the mesh. By Peter Viner.

Working in a minefield

By Neil Mossop, Chairman, NBA Pollination Committee

What a very turbulent time it is for beekeepers involved in kiwifruit pollination.

It is especially turbulent for those heavily dependent on pollination as their main source of income, as orchards go under the chainsaw at an increasing rate. Approximately 20 orchards a week show signs of Psa.

A large grower and packhouse stated some time ago they would be looking at 80% less gold kiwifruit to pack this coming season. As spring continues and the sap flow starts to increase, more and more vines are showing signs of Psa. I have orchard clients walking through their orchard looking closely at each vine each week. One week there will be no sign of Psa, the next week they will find a large number of vines oozing. So out comes the chainsaw to cut it down and the excavator to bury the vines. If this trend continues into the green kiwifruit, in a very short time this industry will be but a memory.

MAF Biosecurity: where are you now?

This whole situation proves how important and vital biosecurity is. It also shows how horticulture, agriculture and our own apiculture industries are vulnerable to unwanted organisms.

Many orchard owners are in their sixties and have worked hard all their lives but are now faced with losing everything—their livelihoods and homes due to no fault of their own. Stress levels are high and these types of situations are accompanied by an increase in suicides.

Use of streptomycin

How to manage Psa is a highly debated issue and I could see problems arising that could seriously affect our bee health and the beekeeping industry as a whole. On 4 July, I and two other beekeepers met with Zespri and Kiwifruit Vine Health (KVH). During this meeting I asked what chemicals were going to be used to control Psa. At that stage they could not say what was going to be used. I specifically asked them then not to drop sprays on the beekeeping industry without consultation.

Unfortunately this is exactly what Zespri did when they announced on 15 August they were intending to use KeyStrepto™ (Streptomycin), an antibiotic to be sprayed on vines. On 22 August a meeting was called with Zespri and KVH for beekeepers and honey exporters where we learned how little was actually known about this spray, and how it was to be used. As an industry we needed some assurance of the procedure and protocols that would be adopted to mitigate residues in honey and bee products. From that meeting a committee was formed, including beekeepers, and guidelines were drawn up on how the product would be applied with appropriate safeguards to protect our industry.

> "...if bees do spread Psa, what does the orchardist do?"

Even so, there is to my knowledge something like 4000 hives withdrawn from pollination as a result of the planned use of KeyStrepto™ and many beekeepers are awaiting the result of current trials before they make a final decision. Many beekeepers are not fully convinced that this product can be used safely.

Other products in use

Also, while we are concentrating on KeyStrepto™, I understand there have been over 27 other products approved for use to help fight Psa. Some of these products will be applied during flowering and I cannot help but wonder how safe any of these

treatments are for our bees. Again, there has been very little or no interaction or consultation from Zespri and KVH to the beekeepers in this regard.

Research is being undertaken by Dr Mark Goodwin and his team at Plant & Food Research to determine if bees spread Psa from flower to flower, and whether pollen with Psa in it can live in a beehive. Will beehives moved from a Psa orchard still carry viable Psa bacteria that can infect another orchard? This research is all very interesting, but I put it to you, what if bees do spread Psa? What does the orchardist do—no bees? No bees means no pollination? You may well ask, what about artificial pollination? But if Psa lives in pollen, then what are the implications?

Trials have been done in the laboratory that show Psa in pollen can be destroyed, but to do this on a commercial scale poses problems which may not be overcome by this season. Even if they can destroy Psa in the pollen and the pollen remains viable, where is all this pollen coming from to be used to artificially pollinate the orchards? Maybe import it—ah, yes, but they have already done that and not many growers are keen to go down that road again.

The whole situation is a minefield and a rapidly moving target. As I write this, things are happening so fast, that what I say now may not be the case in a month's time.

Both the kiwifruit and beekeeping industries face some major changes and challenges during this year's pollination season.

I wish you all well during the season in whatever crop you are involved.

Inspecting honey bee colonies for AFB

By Dr Mark Goodwin, Apicultural Research Unit, Plant and Food Research, Ruakura

This is the first article of a series that has been written for the Management Agency for the American Foulbrood National Pest Management Strategy.

These articles will cover a range of aspects of American foulbrood control, including how to inspect for and identify diseased colonies, the management of colonies to prevent American foulbrood and a beekeeper's legal obligation with regard to American foulbrood.

Introduction

The most common reason why beekeepers have an American foulbrood disease (AFB) problem is because they, or their staff, use incorrect techniques for carrying out disease inspections on their colonies. This article deals with how to inspect colonies.

Although not a reliable diagnostic method, be particularly suspicious of any colony that has not been performing as well as the other colonies in the apiary. Their poor performance may be due to one of a number of other causes but may be due to a large number of larvae having been killed by American foulbrood disease.

When inspecting a colony for AFB, it is important that the method used is capable of detecting a single infected larva or pupa if it is present. The presence of a single diseased larva in a colony means that the colony is infected with American foulbrood disease and legally must be destroyed. The Management Agency for the AFB National Pest Management Strategy must be notified within seven (7) days. More importantly, a single diseased larva contains enough spores to infect up to 500 other colonies. For this reason it is important to check each brood cell in a hive.

The risk of failing to find the diseases by only inspecting a few brood cells within the hive can be estimated quite easily. Assuming a hive has 10 frames containing brood and one diseased larva, an inspection of one frame means there is a 90% probability of missing the diseased larva and not recognising that the colony is infected. Inspecting three frames still means there is a 70% chance of missing a diseased larva.

> "When inspecting hives, inspect every brood frame."

Full frame brood inspections

Most beekeepers do not inspect all frames when carrying out a disease inspection. Some only inspect one frame and many only three brood frames. The effect of an incomplete inspection depends on when the inspection is carried out and the disease status of the hives belonging to the beekeeper. If the inspection is carried out at a time when missing an AFB hive is unlikely to result in the disease spreading; i.e., when there will be another inspection before any equipment is removed from a hive, then an incomplete inspection will have few consequences.

Likewise, if a beekeeping outfit has no AFB then an incomplete inspection, even at a time when equipment is being exchanged between hives, will have few consequences. However, many beekeepers that report diseased hives each year remove frames from, and swap them between, colonies with incomplete brood checks. This is the main reason they have a continuing disease problem. Usually the reason full frame inspections are not conducted is because of the increased time required. This is, however, probably false economy as it is cheaper doing full frame inspections than having to burn hives due to an AFB outbreak. The change to full frame brood inspections can be painful at the start as more AFB hives are often found. However, there are many examples where beekeepers have made significant improvements in their disease status by changing to full frame inspections.

To carry out a full frame inspection, each frame containing brood needs to be removed from the hive and the bees shaken off. The comb then needs to be inspected for chewed/sunken cappings and larvae or pupae with disease symptoms. Isolated and healthy looking cells also need to be inspected as some colonies may have significant numbers of diseased larvae but no outward symptoms of AFB. I have seen several hives with brood infection rates exceeding 80%, where no diseased larvae or sunken cappings were evident but the apparently healthy cells contained diseased pupae. However, spotty brood patterns were present and the colonies were starting to become weak. For this reason it is important to always uncap some cells in healthy frames.

If less than full inspections are being carried out, it is important to check frames in both brood supers. I saw one hive where the brood in the top super had no obvious AFB symptoms. However, the bees had deserted the bottom super that had an 80% brood infection.

Inspecting dead colonies for AFB is much more difficult than live colonies, especially if the colony has been dead for some time. Although a skilled observer should be able to detect AFB scale (the dried remains of diseased larvae), the condition of the comb often makes this difficult. Many beekeepers also lack the necessary experience, as they do not often come across scale. Dead colonies that have died of things other than AFB but were infected with AFB are often not diagnosed correctly. The consequences of failing to confirm that AFB was the cause of colony death are much more serious if the supers, floorboards and lids are stored in a shed and the equipment split between a numbers of colonies the following spring. There have been some disastrous incidences

where the empty frames themselves have been split between a large number of colonies, resulting in a major disease outbreak. The best option for beekeepers with AFB problems is to be extra diligent and make sure colonies do not die.

Where colonies have died and the cause has not been confirmed as AFB, the best action is to place a strap around the hive without removing equipment even if they still have honey supers in place. The hive can then be stored until it is restocked. If the new colony develops AFB, it and the equipment can be destroyed. Only the colony itself is lost as the equipment would have had to be destroyed in any case. Losing a single colony is preferable to what would have happened if the equipment from a dead colony was split between a number of other colonies.

Timing of inspections

The timing of inspections is also very important. Inspections should be timed to occur before hive management activities are carried out that may spread the disease.

Courtesy of Plant and Food Research, Ruakura.

AFB problems can also occur where inspections are carried out by a number of different people. Staff need to be well trained and supervised, an issue that that will be covered in a later article. To keep everyone motivated to perform adequate AFB checks, a good approach is to issue everybody doing inspections with a felt pen and get them to write their initials and the date on the lid of each hive they inspect.

[Editor's note: these articles were first published in 2003, and have been reviewed and updated where necessary. The original article was entitled American Foulbrood Control. We will run these articles on a regular basis over the next year.]

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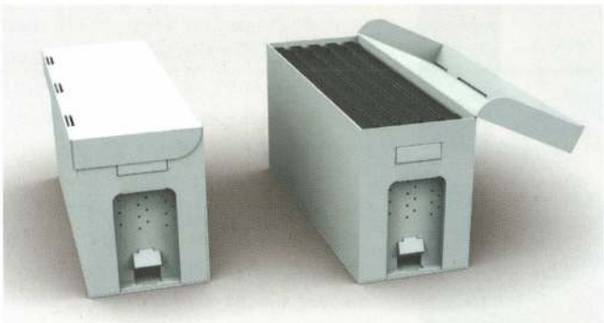

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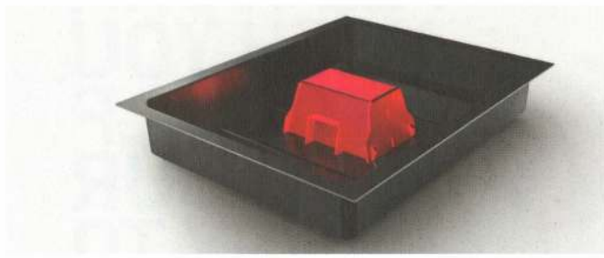

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Protecting vines from Psa-V

By Richard Pentreath, Orchard Productivity Manager – NZ Supply ZESPRI International Limited

Kiwifruit orchardists have been working hard to contain the spread of Psa-V since November 2010, when the first infections were confirmed in the heart of the Te Puke growing region.

Kiwifruit Vine Health Inc (KVH) was set up in December as the pan-industry organisation to manage the transfer of information about Psa and to direct the allocation of resources in the fight against Psa.

Two KVH protocols have been developed in consultation with beekeepers in recent weeks, including:

- the pollination best practice guidelines; and
- the agreed protocols for KeyStrepto™ restricted application on orchards within the KVH Priority Zones (PZs) and High Risk Areas (HRAs).

KVH has confirmed its recommendation of the use of KeyStrepto™ for protection against Psa on kiwifruit orchards in the Psa PZs and HRAs. KeyStrepto™, an antibacterial treatment containing the active ingredient streptomycin, is one of the 'pre-flowering' spray options KVH has recommended to growers to protect vines against the bacterial disease, Psa-V. Psa-V has been devastating orchards in the Te Puke region.

In August, New Zealand regulatory authorities gave approval for the limited application of KeyStrepto™ to kiwifruit vines under strict conditions of use. New Zealand and overseas research, as well as overseas grower experience, has shown it to be one of the most effective products presently available for protecting vines against Psa.

KVH—in consultation with beekeepers and other primary production industries—has developed a strict set of protocols for the use of KeyStrepto™, to ensure the product is used in the most effective and low-impact manner possible. A working group set up between KVH and beekeepers has made every effort to address beekeepers' concerns, particularly the risk of residues being detected in honey. Key measures to address this risk include the following:

- application allowed before flowering only
- an early testing programme for residues in honey, propolis, and wax commenced early September
- compulsory mowing of orchard swards and removal of flowering plants from the spray strip
- auditing of all orchards prior to application taking place
- mapping of orchards intended to be sprayed with KeyStrepto™ is available to beekeepers on the KVH website through a restricted access. (Beekeepers wanting to access the KVH mapping of spray intention KeyStrepto™ can visit the KVH website at www.kvh.org.nz to click on the login box at the top right-hand corner of the home page and follow the prompts).

Pollination protocols updated

Updated pollination protocols are available from www.kvh.org.nz and should be read by both beekeepers and orchardists. It is critical that all beekeepers and contractors adhere to orchard hygiene protocols and ensure both equipment and vehicles are free of physical debris when leaving an orchard. Orchardists should ensure appropriate facilities are available to beekeepers, such as wash-down areas and cleaning products. Because the risk associated with the movement of bees themselves is not yet known, it is recommended hives that have entered the PZs for pollination are not used again on any orchard outside the PZs. When more is known about the risks posed by bee movement, this recommendation will be updated and may include a recommendation for a stand-down period between orchards. Results from research trials are expected to be available by mid-October this year.

- The strategic placement of hives within orchards is important; i.e., ensure hives do not come into contact with vines or shelter belts.
- Hive placement should also allow for feeding to take place without vehicles coming into contact with vines or shelter belts.
- Discuss hive placement with orchardists—ask the orchardist to provide a map of the orchard layout if necessary.
- This year more than ever, a pollination agreement should be arranged to ensure the requirements of both orchardists and beekeepers are clearly understood in advance of delivery.

Orchardists typically have long-standing relationships with their beekeepers and value the essential role they play in the production of a profitable crop each year. Psa-affected growers greatly appreciate beekeepers' support to the kiwifruit industry and the combined efforts to deal with the Psa incursion.

NZ kiwifruit vines cut back to stumps following Psa-V infection. Photo by Victor Jones.

Sick bees, healthy bees: do you know?

By Tony Roper, Apicultural Officer, AsureQuality Limited, Christchurch, tony.roper@asurequality.com

Do you know if your bees are sick or healthy? A number of beekeepers simply don't have a clue!

This article tries to rectify this situation and will help beekeepers have a better understanding of the health status of their bees.

Many beekeepers are reporting finding a lot of dead hives and hives that are underperforming. It is critical that you know the health status of your bees and what is needed to make sure they are in peak condition and not a disease risk to your own hives or those of other beekeepers.

It is most critical that you recognise what is causing your bees to be sick. The cause could be a newly introduced exotic bee disease or pest that would have major implications for the whole New Zealand beekeeping industry. Today with the large amount of global travel and importation of foreign goods there is an increased risk of exotic diseases and pests potentially arriving to New Zealand. Beekeepers must do everything possible to educate themselves as to what a healthy colony looks like and to recognise any symptoms that suggest ill health.

If you are still not sure you can ring the MAF Hotline (0800 809 966) for advice. MAF also funds and manages the Honey Bee Exotic Disease Surveillance Programme, which is carried out by AsureQuality Limited with the assistance of qualified beekeeper inspectors (http://www.maf.govt.nz/agriculture/horticulture). The programme carries out annual surveillance for detection of pests and diseases in apiaries situated at high-risk sites (areas susceptible to the arrival of pests and diseases; e.g., ports).

Are your bees sick?

If you want to be able to recognise sick bees or brood easily, it is most important that you are very familiar with what healthy bees and brood should look like (Matheson & Reid, 2011; Ministry of Agriculture and Forestry, 2008). Then any unusual symptoms or bee behaviour can be spotted and then diagnosed appropriately. It should be noted that in general the earlier a bee disease is detected, the better the chances of limiting its damage. This is especially true with exotic bee diseases where there may be a good chance of attempting eradication. See also www.afb.org.nz

Keeping bees healthy

What do bees need to be healthy? Similar to humans, bees need three fundamental requirements to be healthy; namely good shelter, good food and a clean environment.

Hives should be made of a material that will not harm the bees or contaminate honey production. The hives must be placed in suitable locations where there is plenty of sun and shelter from cold winds as well as not too damp or subject to flooding. The health of your bees is largely determined by the degree of environmental stress placed on them, so if stress can be minimised by the beekeeper, the healthier the bees will be.

> "...good pollen sources in one area may be a biodiversity hazard in another..."

The second requirement for healthy bees is adequate food designed to meet three main requirements; namely a source of energy, protein and water. The energy requirements are provided by sucrose or cane sugar and honey which is made up mainly of fructose and glucose. To prevent hives becoming stressed and hungry, it is critical that full-strength hives have the equivalent of at least five frames of stored honey at all times. Nucleus colonies need at least two frames of stores.

If the honey stores are low, the beekeeper must feed the hive with sugar syrup. House bees will change the composition of the sucrose sugar syrup to fructose and glucose and reduce the moisture content to under 20%. However, this conversion process does require a lot of effort on the part of bees. Feeding honey is usually not recommended as the risk of spreading American foulbrood (AFB) disease may be too great.

The requirement for protein is met by pollen, especially high-protein pollens (ideally over 20% protein) such as gorse. Pollen also contains other useful nutrients such as minerals, lipids (or fats), sterols and vitamins. Foraging bees gather pollen and add enzymes, which convert pollen into 'bee-bread' when it is stored in the comb. Bee bread is more nutritious and digestible than raw pollen (Winston, 1991).

If there is a shortage of pollen in the hive, or a lack of pollen availability in the area, pollen substitutes can be fed to bees. Beekeepers could also consider planting good pollen-producing species if their bees are in a pollen-deficient area and they have access to land to do so. Please note that good pollen sources in one area may be a biodiversity hazard in another or even regarded as a noxious plant (weed).

Lastly, bees need a clean environment to prosper and this involves both the combs and hives they live in as well as the plants they forage on. Combs need to be replaced on a regular basis to remove pathogens and chemical residues that accumulate over the years. Try and replace at least four frames in the brood nest per hive per year. Beekeepers have little influence on the environment over which their bees forage, but areas of intensive horticulture and agriculture crops will have pesticides applied at some stage.

What are the signs of sick bees?

If bees are not lacking food, shelter or clean environment but are showing signs of ill health, then the beekeeper should suspect poisoning or some form of disease or pest. It is possible that this disease or pest could be a newly introduced exotic one.

If bees are being poisoned, then several handfuls or more of dying and dead bees will be found in the front of the hive, often several centimetres thick and also inside between the combs. If the number of dead and dying bees is much smaller, then the cause may be from other factors such as an exotic pest or disease. If you suspect this is the case, ring the MAF Hotline 0800 809 966 immediately.

A strong hive will often recover after a few weeks if the source of the poisoning has been removed. This is most often the case with local councils spraying roadsides with herbicides containing a surfactant as it is a one-off application. The bad news is that the hive, even if it recovers, is unlikely to produce a crop of honey for that season.

Other poisons have a more subtle effect on bees. Some of the systemic poisons, such as neonicotinoids used on seed coatings, may have a slow and imperceptible detrimental effect on bees which the beekeeper may not even notice at first. The most obvious sign will be that the bees are not as active as they should be and the colony is not expanding. In fact, the hive population could be dwindling with plenty of food supplies and a laying queen. Again, this condition could be caused by other factors such as an exotic pest or disease, and it is important to rule out this possibility by contacting MAF.

It has been the author's experience that a number of beekeepers are not treating properly for varroa mites. They are treating too late or with treatments that are not working or are undertreating. It is important to remember that with varroa, the mite is not the problem per se; the problem is the secondary viral damage (Bailey & Ball, 1991; Goodwin & Taylor, 2007) that is now killing the bees. The viruses were initially spread by varroa mites. Beekeepers may clean up all the varroa mites but the viral damage to the bees will linger, sometimes for as much as six months or may completely destroy the hive. Viral damage in bees manifests itself in a number of ways such as:

- colony populations that are standing still or going backwards and are below what would normally be expected for the time of the year
- much shortened longevity. The beekeeper needs to be on the lookout for autumn bees that are not lasting through the winter and into the next spring. Also, a lack of foragers in hives because of their shortened lifespans, which will result in a reduced honey crop
- nurse bees unable to feed brood due to their hypopharyngeal glands being damaged by viruses, which will in turn cause the brood nest to contract.
- European foulbrood (EFB)-like symptoms such as brood dying early in the pre-pupa stage and corkscrewing up cell walls. (Note that if you are seeing EFB symptoms, it is critical that you ring the MAF Hotline 0800 809 966.)

A number of viruses are endemic to New Zealand but a number of viruses remain unidentified because of the lack of baseline data available for bee viruses in New Zealand. Five of the most common endemic viruses that are likely to be in your beehives are:

- sacbrood virus
- bee paralysis virus
- Kashmir bee virus
- deformed wing virus
- black queen cell virus.

The Israeli Acute Paralysis Virus (IAPV) has not yet been found in New Zealand. This virus has been found in Australia and other parts of the world. Apart from damaging bees, viruses can make symptoms of exotic diseases such as EFB, Colony Collapse Disorder (CCD) and tracheal mites more difficult to detect. If your bees are sick after varroa treatment and you are unsure of what the cause is, then it is critical to get a second opinion. It may be the varroa mites in your hive are resistant to the treatment you are using or the treatment is not very effective or there could be an exotic disease present.

Another common bee disease in New Zealand is *Nosema apis* and *N. ceranae*. Both these species of nosema will shorten the life of your bees and have a similar effect as viral infections. The nosema infections can show similar symptoms to Colony Collapse Disorder; i.e., older foraging bees vanishing from hives. Beekeepers should make themselves familiar with symptoms caused by nosema species.

What beekeepers can do to prevent sick bees

You can talk to an Apicultural Officer at AsureQuality for advice on bee management, pests and diseases. You can also ensure that stresses on your bees are minimised so that they remain healthy; for example, making sure your bees are well fed, have shelter and that varroa is controlled properly (less than 3 mites/100 bees; Oliver, 2011). *Remember that it takes healthy bees to raise healthy bees!* This is why the timing of the autumn treatment for varroa in particular is so critical. You need to ensure that several healthy brood cycles are completed after treatment and before winter temperatures restrict brood rearing.

Another good way to prevent stress in bees is to select strains of bees that are showing some resistance to viruses. The breeders will carry this genetic trait, which can be passed on to future generations and will help minimise viral problems.

Checking dead colonies

If hives have died out, it is important to check the hive carefully to see what the cause was, such as American foulbrood, starvation or being queenless. If the cause appears to be an unknown disease or pest, it is important to contact MAF. If the hive died out because of the accumulating effect of nosema and viruses, then the equipment will be a source of re-infection. Combs from dead-outs should not be placed into healthy hives because they can be a major source of re-infection. It is better to render these sorts of combs down for wax.

Who do you call?

If you suspect that your bees are not healthy and may possibly have an exotic disease or pest, then ring the MAF Hotline (0800 809 966) immediately! Your call will be followed up by specialists at MAF who work closely with Apicultural Officers employed by AsureQuality Limited. Apicultural officers who are qualified in pest and disease management will discuss the symptoms with you and liaise with MAF if there is suspicion of an exotic agent present. You may be requested to forward a sample to one of the MAF laboratories or a warranted Authorised Person may visit the site for a sample. You will be advised on how the sample is to be collected including the type of sample required for diagnosis. For example, if EFB is suspected a larval sample will be collected and sent to the laboratory. There are no costs associated with submitting a suspect sample to MAF that may be infected by an exotic disease or pest and there are no →

costs associated with any testing of a suspect sample in a MAF laboratory.

All beekeepers are encouraged to report any suspicious exotic pest or diseases to MAF as this is critical to protecting this country's bee industry. All beekeepers such as yourself have an important role to play in ensuring that exotic pests and diseases are kept out of New Zealand. Make an immediate start now on inspecting your hives and make sure you have healthy bees, not sick bees!

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PEST AND DISEASE CONTROL

Change to oxalic acid concentration

By Michelle Taylor, Scientist, Plant and Food Research

Do you use oxalic acid to treat for varroa mite? Then read this …

The concentration of oxalic acid crystals being supplied is not what it used to be! It appears some beekeepers have not received notification of this change, which as far as I am aware may have been supplied for the past year. The oxalic acid concentration in the crystals used to be 71.4% but is now 99%. *You must adjust your measurements accordingly.*

Due to the concentration of oxalic acid being changed (from 71.4% to 99%), beekeepers should determine which oxalic acid calculation to use below:

1. If oxalic acid is 71.4%: mix 75g of oxalic acid in to 1.67 L sugar syrup (1L water + 1kg sucrose) = 3.2%
2. **If oxalic acid is 99%, beekeepers should be using this calculation: mix 54g of oxalic acid in to 1.67 L sugar syrup (1L water + 1kg sucrose) = 3.2%**

If the beekeepers make up a solution using 75g of 99% oxalic acid and 1.67L sugar syrup, then they need to add an additional 0.65L (for every 1.67L used) to get it to the 3.2% concentration.

Oxalic acid is a chemical and you should not be putting anything into your hive 'blindly'. You need to identify any concentration that you are using so that the calculations in the *Control of Varroa* manual match what you are requiring.

Retail honey sampling results pleasing

By Rex Baynes, AFB NPMS Manager

In late 2010 the Management Agency contracted Plant and Food Research, Ruakura, to undertake a testing programme to determine the incidence of AFB in retail packages of honey.

The retail packs, 52 in total, were sourced on an independent basis, with purchases being made from across the country including supermarkets, roadside stalls, farmers' markets and TradeMe. Testing carried out found only one sample with detectable AFB spores (1.9%). The 2007 survey (n=45) had a nil result. This compares with a survey carried out in 1991 (n=22) where seven samples were positive for AFB spores (31.8%).

APIWEB update

APIWEB, the online, web-based program that allows individual beekeepers to manage their apiary information, make applications to register or delete apiaries, report AFB, and receive information on which of their apiaries are within three kilometres of an AFB find, has been working reasonably well for beekeepers with over 500 hives. Byron Taylor (AsureQuality Limited, Hamilton) has recently opened it up to beekeepers with hive numbers from 50 to 500 to give the system a bit more of a test. Beekeepers in that category should have received a letter giving them instructions on how to get on to and use the website.

Honey Bee Exotic Disease Surveillance

By Byron Taylor, Apicultural Officer, AsureQuality Limited, Hamilton
byron.taylor@asurequality.com

The following article overviews the annual Honey Bee Exotic Disease Surveillance Programme for the 2010–2011 beekeeping season as of autumn 2011.

This programme is funded by the Ministry of Agriculture and Forestry (MAF).

The goal of the Honey Bee Exotic Disease Surveillance Programme is to detect the incursion of an exotic disease or pest of honey bees as soon as possible; therefore giving MAF and industry more eradication or control options.

The methods by which the above goal is achieved are as follows:

- completion of a surveillance programme concentrating on the detection of exotic diseases and pests of honey bees
- educating beekeepers in the area of exotic diseases and pests of honey bees.

The programme not only delivers field surveillance but contributes in other areas to help prevent establishment of exotic pests and diseases. The programme delivers the following activities.

Industry education

As at 20 June 2011, there were 3265 beekeepers managing 391,540 hives on 23,356 apiaries. It is unrealistic to inspect every hive in the country for pests and diseases; thus the Honey Bee Exotic Disease Programme generally targets apiaries in 'high-risk' sites. These apiaries are more at risk of invasion or infection because of their proximity to ports, airports, transitional facilities, and tourist destinations, which provide pathways for introduction and transport of pests and diseases.

However, it is understood that by educating the beekeeping industry in the identification of exotic pests and diseases, the chances of finding an incursion early are greatly increased. This is because vastly more hives can be inspected by an educated industry than through targeted surveillance at high-risk sites.

Another component of the Honey Bee Exotic Disease Surveillance Programme is the preparation of three articles per year for publication in *The New Zealand BeeKeeper* journal. These are written by the AsureQuality Apiculture team and are generally a summary of the latest information on a particular pest or disease of importance to honey bees. Articles are peer reviewed internally within the AsureQuality Apiculture team and externally by MAF.

Additionally, the surveillance programme funds the update of the honey bee exotic disease and pest pamphlet which is sent to all registered beekeepers for aiding identification of diseases and pests in the hive.

Beekeepers should keep themselves informed about biosecurity issues, pests and diseases that affect apiculture and regularly inspect their hives for any suspicious signs of pests or disease. The more educated the industry is, the greater the chance that a beekeeper will report something unusual in their hives.

Technical development

The AsureQuality Apiculture Technical Team receives support from this programme for maintaining technical competence in the area of exotic honey bee pests and diseases. This funds subscriptions to technical magazines, technical workshops and research time to prepare popular articles.

Apiary database

The creation of an effective surveillance programme depends on good information. The Ministry of Agriculture and Forestry funds a portion of the costs associated with keeping the information on the apiary database current (i.e., the Annual Disease Return). MAF uses the apiary register to design and manage the surveillance programme.

Additionally, the Exotic Disease surveillance programme has previously contributed to the development of APIWEB, which allows beekeepers to access and update information held on the apiary database relating to their operation. This ultimately improves the quality of information held in the database and improves the surveillance programme design.

Field surveillance

This autumn, as in previous years, MAF, the beekeeping industry and AsureQuality Limited worked together to deliver the field component of the 'Honey Bee Exotic Disease Surveillance Programme'. This programme has two goals:

1) to detect an exotic honey bee pest or disease early enough for an eradication attempt to be considered
2) to enable New Zealand to make country freedom statements with respect to these exotic pests and diseases. This helps facilitate the negotiation of more favourable overseas market access conditions.

Partnering with industry to deliver the field inspection component of this programme is vitally important to achieving these goals. To this end approximately 30 Authorised Persons – level 2 (AP2) sourced from within the industry offered their services for this year's programme. A number of these AP2s are beekeepers who have many years of experience inspecting beehives for exotic diseases while for others, although experienced beekeepers themselves, inspecting for exotic diseases is relatively new. I would like to offer these individuals my thanks for a job well done this season and look forward to working with you again next season.

AP2s are experienced beekeepers who are warranted under the Biosecurity Act 1993.

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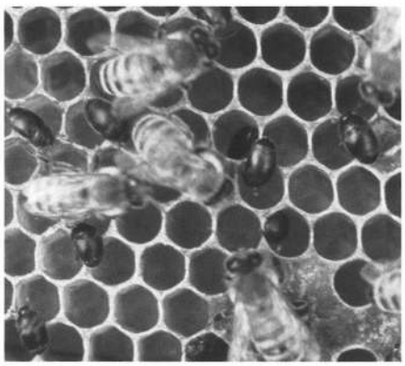
These beekeepers are authorised to enter property and inspect beehives under the direction of an Authorised Person – level 1 (AP1) who are currently AsureQuality or MAF employees. AP2s are warranted 'by programme' rather than 'by industry'. What this means is that AP2s may be warranted for exotic disease surveillance and response but not AFB and vice versa. Having trained inspectors within our industry effectively means that we can get more done with the money that is available than we could by sending apiary officers from central locations. The Ministry of Agriculture and Forestry also provides funding to train AP2s.



Adult small hive beetles. Photo: Murray Reid.

The surveillance programme requires 350 apiaries to be inspected and sampled in two risk categories. Hives were sampled for a range of pests and diseases of importance to the beekeeping industry. Every hive in each of the apiaries was required to be inspected and tested in order to maintain the sensitivity of the surveillance programme.

A total of 346 apiaries were inspected as part of the high-risk site surveillance against a target of 350 apiaries. As noted last year, a significant number of the sites visited this year still did not currently have hives, which made reaching the target difficult. It is anticipated that as we get the hobbyist beekeepers onto APIWEB (currently only beekeepers with 50 or more hives have access), the information held on the apiary database will be more up-to-date and will result in fewer visits to apiaries with no hives.

High-risk areas were selected as the most likely points of introduction for an exotic pest or disease, and include seaports, airports, transitional facilities, large population areas, tourist areas, rubbish dumps and any other area deemed to be an elevated risk.
AP2s perform a thorough inspection of every hive in each selected apiary. During this inspection they look for a variety of pests and diseases. This starts as they approach the hive where they are assessing the behaviour of the bees; i.e., how aggressive they are, how active they are compared to other hives in the apiary and whether there are significant amounts of dead bees in front of the hive. As they open the hive, they are particularly looking for evidence of adult small hive beetles in the extremities of the hive. These beetles move very quickly and will actively seek cover when exposed.

While inspecting the frames, the inspector will be noting the bee's activity on the frame. If the bees are highly active and also very aggressive, the inspector may note potential Africanised genetics. If evidence of multiple laying workers is evident, particularly if they are behaving and being treated like a queen, and hive activity is low, the inspector will take one or more of the laying workers to test for Cape Bee genetics. Additionally, the inspector will inspect the brood for symptoms of EFB and take samples as appropriate.

The AP2 will also take a sample of approximately 300 older adult bees from the honey frames. These bees will be tested for tracheal mites and possibly Africanised genetics if suspected. If there are significant numbers of dead bees in front of the hive, a sample of these will also be taken to test for tracheal mites.

Lastly, the AP2 will insert miticide strips into the brood nest and a sticky board onto the floorboard to test for external mites (particularly the Asian mite, *Tropilaelaps clareae*). The AP2 will return the next day to extract the sticky board and strips from the hives.

All samples are sent to the MAF Investigation and Diagnostic Laboratory (IDC) where samples are tested for the range of exotic pests and diseases of interest. No exotic pests or diseases of honey bees were detected during the high-risk site surveillance programme this season.

Export samples

Samples from 462 low-risk apiaries that supply bees for export contributed to the programme this year. This was much higher than the target of 300 apiaries though considerably less than what was received last year. Like last season, the elevated numbers were a result of a strong export season requiring bees to be supplied from a greater number of apiaries. The number of samples requested from beekeepers supplying bees for export has remained at a maximum of 25 apiaries per beekeeper.

Exotic disease inquiries

In addition to the scheduled surveillance programme, each year MAF and AsureQuality Limited receive a number of calls from beekeepers reporting suspected exotic bee diseases or unusual symptoms in hives. AsureQuality Limited worked with the MAF Investigation and Diagnostic Centre in Wallaceville to screen these calls and determine whether sampling was justified.

Testing for tracheal mites. Photo: Byron Taylor.

Nine calls were received, eight of which resulted in further sampling being required. As mentioned last year, if endemic diseases are not the cause of the symptoms (as with the one case where further sampling was not required), it is common to test samples for a range of exotic pests and diseases. All tests showed negative for any exotic pests and diseases.

Lastly, thanks again to all those beekeepers who endure, in some cases, almost annual apiary inspections. Indeed, in some areas this year, due to the large number of empty apiaries, 100% of registered apiaries containing hives were inspected. We appreciate your continued support.

Happy beekeeping and good luck for the coming season!

Adding frames to top bar and Warré hives

By Deanna Corbett, NBA member

A previous version of this article appeared in the Hawke's Bay *Buzz Sheet*, September 2011.

You do need a frame

Let's get a few things clear to start with:

- there is no restriction on hive shape in New Zealand. Vertical hives are legal, horizontal hives are legal, sloped sides and straight sides are legal.
- natural comb is legal. There is no requirement for foundation, either wax or plastic.
- screened or solid bottom boards, flat or peaked roofs, Warré quilts or hive mats, queen excluders or none, top, bottom, round or slot entrances—all these elements and more are down to the beekeeper's preference.

The one physical element of a hive's structure that is mandated is the use of a frame.

You don't have to get rid of your hive.

You don't have to change any other element of the hive.

You don't have to change anything else about the way you choose to manage your hive.

You just have to put proper frames in it.

So what constitutes a proper frame?

A proper frame must meet two objectives.

1. It must stop the bees from attaching comb to the inside of the hive, so the comb can be easily removed from the hive without cutting or damaging it.
2. It must support the comb to allow manipulation required for the prescribed manner of inspection for AFB, which means the comb must be able to be held horizontally. See the *AFB Elimination Manual* for the correct inspection method (available from http://nba.org.nz/publications).

Finding the light: depending on the time of day, it can take a little finesse to get the correct lighting angle. When you do, it's like turning on a light switch inside the cells.

The frame should also be sturdy enough that you can hold the frame, rather than the comb itself.

An enclosed frame built with minimum contact points in the hive, maintaining a bee space of 6–9 mm around all edges, will only be propolised in at the contact points and generally not attached to the interior of the hive otherwise. There's your first criterion fulfilled.

The other effect of an enclosed frame is that, because bee space is maintained around the whole outside of the frame, the bees will tend to build the comb to completely fill the frame, joining it around all inside edges, and forming a strong structure that, once attached, is easily manipulated as required. There's your second criterion.

What on earth is 'bee space'?

If you have only come to beekeeping through top bar hives you may never have heard this term. In short: a bee space measures 6–9 mm.

- A gap under 6 mm in the hive is too small for a bee to transit easily, so these are sealed up with propolis.
- A gap over 9 mm is too wide for bees to transit across easily, and wider than they need to move through, so bees will build comb to close these gaps down.

One of our girls obligingly poses in front of a ruler—and measures up at a little over 6 mm to the top of her wings.

Why those measurements? Short answer: because the bees say so. Longer answer: bee space was identified through long and careful observation of bees' natural comb building behaviour by Lorenzo Langstroth. The bees tend to use the smaller measurement for transit spaces where usually only one bee passes at a time, and the wider where bees sit on opposite surfaces—as on the faces of two combs side by side.

Once bee space, a measurement of the bees' natural behaviour, is understood, it's a simple matter to make a frame to suit almost any hive.

Let's have a look at how standard Hoffman frames put bee space into practice in a Langstroth hive.

Hoffman frames sit in a jig awaiting wiring. Note the bee space gap between the top bars, which allow the bees to move up through the hive, and also between the sides and bottoms of the frames.

When sitting in a hive body, there is a bee space gap between the side bars and the wall of the hive body.

The wider upper sections of the side bars butt together to give the frames stability and prevent frames swinging when boxes are lifted.

Choosing materials wisely

I have seen samples of suggested frames for top bars made by curving a piece of No. 8 wire or a split bamboo rod under the top bar.

There are two major problems with these options:

1. size. Bees will build straight around and past the wire or bamboo (unless the bamboo is of significant width, in which case it would be too stiff to bend). The frame must be a significant enough structure to stop the bees building through it.
2. shape. While the wire could be bent to fit, a simple curve that does not correctly fit the hive will not deter the bees—they will build around and below the wire or bamboo as if it were not there.

Wood that is 25-mm wide and 10-mm thick is a better choice: sturdy enough to nail without splitting and wide enough to maintain bee space between frames.

How to make a frame

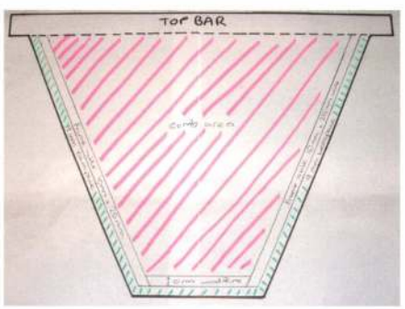
Good news: straight-sided hives are easy, and sloped-side hives come with a built-in template!

Horizontal top bar hive with sloped sides

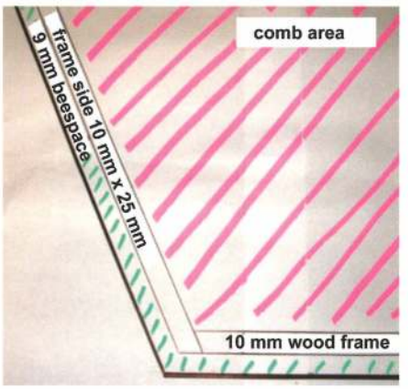
If your hive employs a follower board, congratulations—you have a built-in template.

Get a large sheet of paper, take your follower board and trace closely around its edges. (Drape a cloth into the space left by the follower board if you want to keep your bees settled inside their comb until you're done.)

Remember we are dealing with fairly small measurements: if your pen traces wider than your actual follower, adjust your template accordingly.



1. On your template, draw a line across the bottom of the top bar (dashed line in diagram).
2. Measure 9 mm in from the sides of your follower and draw a line along the slope.
3. Measure 9 mm up from the base of your follower and draw a line along the base.
4. Now repeat the previous two steps, but this time measuring 10 mm inside of your previous lines.



The outer gap (in green in the example above) is bee space—the empty space you are aiming to leave between your frame and the hive side. The large middle void is comb space for the bees to build in. The 10-mm gap between the two is your wood frame.

Lining up sidebars on the template to mark the required angle to be cut.

You now have a template from which you can establish the required length of your side and bottom bars, and the angles at which to cut them.

Cut and ready to assemble.

Assemble by driving two nails diagonally up through the sidebar and into the top bar, then two nails through each sidebar into the bottom bar.

Assembled and ready to go into the hive.

Caution: Make sure your follower is a good fit. A brand-new hive I viewed recently had gaps along the edge of the follower of perhaps 6 mm in places—enough for a bee to fit through, and enough to throw out your bee space measurements.

Bear in mind the issue may not be the accuracy of the follower so much as warping of the hive body itself. If unsure, use your follower board to check dimensions at both ends and in the middle of the hive. Warping may also be as simple as your hive not being set evenly on the ground—check with a spirit level.

Warré or vertical top bar hive, or straight-sided horizontal hive

You may be running a hive built of Langstroth boxes on Warré principles, in which case all you need to do is buy or build standard frames—either Hoffman or Simplicity. Manley frames should be avoided, as they are not suitable for brood nests, which of course all boxes in a Warré hive will be at some point.

If your boxes/hives are proper Warré or any other dimensions with vertical sides, read on.

The length of the sides and bottom of your frames are dependent on the dimensions of your hive cavity. →

First, measure the internal width of the box. The width of your frame to the outside edges is the width of the box minus 18 mm (one bee space either side of the frame). In a standard Warré box with an internal width of 300 mm, your frame width is 282 mm (measurement is from outside edge of sidebar to outside edge of opposite sidebar).

Next, measure the internal height of the box. The height of your frame to its outside edges is the height of the box minus 9 mm (one bee space—either at top or bottom depending on the depth of your rebate). In a standard Warré box with an internal height of 210 mm, your frame height is 201 mm.

You can, if you wish, easily make a template as for the slope-sided example above, using the internal dimensions of the box to create your template border instead of tracing around a follower board.

Now that you know your dimensions, you need only cut your wood to size and assemble with nails. If your carpentry skills are up to it, a box or finger joint adds strength to the joints, but realistically a butt joint will work just fine.

Traditionally, to join the top bar of a frame to the side, a nail is driven down through the top of the top bar and into the sidebar. Then, a second nail is driven diagonally up through the sidebar and into the top bar, giving a strong joint.

Transitioning from top bars to frames

Now let's discuss transitioning from top bars to frames in an occupied hive. Spring is the ideal time to start transitioning as the hive starts to expand and comb drawing starts up, so get your frames made up now and get ready to go.

Horizontal top bar hives

You have two options:

- either buy/make new top bars to build your frames onto so you can get a full hive set made and get the carpentry out of the way all at once, or
- make existing top bars into frames as they are transitioned out of the hive, which requires a few repeat visits to the workbench. This may be easy in early spring when the hive is compact and you can work freely with all the bars behind the follower board in the void space, but might be a bit more difficult later into summer as the hive grows and perhaps all top bars are required in the hive space. If you go this route, I suggest getting a couple of extra top bars made into frames to remove time pressure on you to remove a bar, frame it and get it back into the hive immediately.

The process:

1. immediately remove any empty top bars behind your follower board (in the void space) and replace with frames
2. immediately remove any empty top bars within the hive space and replace with frames. If you have any empty partially built honey combs, remove and replace these too. (A note of caution in early spring: ensure the bees have enough feed stored, and do not remove so much comb that they have nowhere to put feed as they bring it in. Remember only young bees draw wax, so the hive won't be able to replace comb easily until the population starts to grow)
3. as the weather warms and you checkerboard the bars into the brood nest for swarm control, checkerboard in frames instead.
4. as the season picks up and the hive grows, take single bars of capped brood and (after checking the queen is not on the comb) move the bar to the outside of the honey stores. Add a frame to the brood nest to replace the removed bar. The objective is to let the brood emerge on the outside of the brood nest where the queen will not immediately start laying again as bees emerge, and the empty bar can then be removed. When the empty bar is removed, find the next bar of capped brood and repeat the process. Do this only one bar at a time—the objective is to move the capped brood only, not relocate the whole brood nest.
5. obviously as honey bars are harvested, they will be replaced with frames instead of returning the top bar to the hive.

Warré

For Warré hives, obviously any new boxes nadired under the hive in spring should have frames in them instead of top bars, but also take the opportunity to check existing boxes and exchange any undrawn bars, or bars with empty comb for empty frames. It is perhaps a little harder in a Warré to exchange frame by frame, but you should make some effort to remove honey-full top boxes through the season and effectively push the bees downward as quickly as is practical.

Working to a deadline

It is important that, whatever style of hive is being converted, the process is started as early in the season as possible, and continuous progress is made towards conversion. As autumn closes in and hives lose their ability to draw new comb, no further progress will be able to be made.

It may be that a shakedown is required to remove the last of the top bars and convert the hive fully to frames within a season. If a shakedown is required, I suggest that this should be done in summer, well before autumn, to give the bees time to complete their building and get good stores in place. There is evidence that the lack of comb to put stores into reinvigorates comb-building ability in a hive, so get them finishing the rebuild while the summer flow is on, rather than having them caught short in autumn.

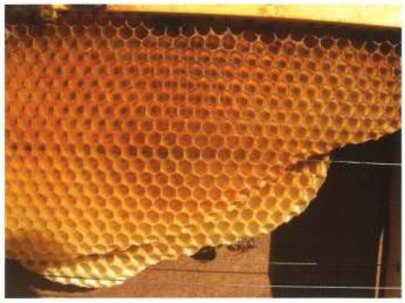
Bonus points

Comb collapse due to handling, the bane of many a top bar hive, will largely be alleviated with a full frame. The comb attached around the whole edge of the frame is many times stronger than the comb hanging solely from the top bar, and the integrity of the comb is not being damaged repeatedly by having to be cut out of the hive for inspection. Comb collapse due to heat stress may also be helped, but make sure to pay attention to the location and ventilation of your hive if this is an issue.

Natural comb being built in Langstroth frames. Two frames, by the way, not two combs in one frame. Note wire is readily accepted.

You may also wish to add a support wire to your frame. The photo above shows natural

comb being built in my Langstroth hives. The bees started with an empty frame and popsicle sticks glued into the frames top groove as a comb guide. Note that the bees build around and through the wire quite happily with no interruption to the comb pattern.



I have also found that the bees will tend to use the wires as a guide as they build down, ensuring straighter combs. Bees are master engineers, and without guidance or other support will tend to curve a comb slightly along its width, producing a stronger structure than a perfectly straight comb. With the frame and wire the comb is structurally supported and the bees are happy to build straight.

The wires also serve as a guide—bees build comb downwards according to gravity and if the hive is not set perfectly vertically can produce combs on a slope in the frame (of course, the problem is really the other way around—the bees know what they are doing, it's the hive that is lopsided). However, with wires in place the bees will build into the frames even if the hive is set a fraction off vertical.

Be aware, however, that this only works for minor corrections. One very important aspect of getting bees to build neatly into frames is that the frame should hang down as perfectly vertically as possible: not difficult if you take reasonable care with your frame building and hive levelling.

Granted, the wire is not a requirement of the frame, and they can be a bit of a nuisance if doing crush and strain honey harvesting, but for frames specifically intended for brood, they can be beneficial. (I assume you are not harvesting honey out of frames that have been used for brood or in the hive when you are using any chemical varroa control!)

While we're on the subject …

I note an interesting approach to bee space between combs in some New Zealand-built top bar hives. The hive I viewed recently used 37 mm-wide top bars throughout the hive. This width might be appropriate for honey combs, but is too wide for proper brood comb spacing and will quite likely exacerbate cross-combing issues in the brood nest—an absolute no-no.

Why is this an issue? Because the bees typically build brood comb to a defined cell depth as well as width. In average Kiwi bees coming off standard foundation, brood comb will typically be about 24–25 mm thick. Add 9 mm bee space to that, and you have a measurement of 33–34 mm. Funnily enough, 33 mm is the width of a standard Hoffman frame.

If you are working on the basis of producing 'small cell' bees through natural comb regression, then the measurement is actually more like 32 mm thick for comb and bee space combined, making the measurement of 37 mm even further removed from an appropriate bee space.

If you find you have 37-mm bars throughout your hive, now might be an opportune time to consider paring them down to a better width. To avoid cross combing in the honey areas of the hive if the bees try to build out wider than the brood-sized bars, you can add in spacers between the honey top bars to help avoid cross combing. But your focus should be on providing correct brood area spacing and finagling the honey area, rather than the other way around.

If you find yourself muttering, "how much can a couple of mm matter?" at this point, turn it round and ask yourself "how tall is a bee?", and take another look at the previous photo of a bee and ruler.

Done and dusted!

With frames, a top bar hive will be able to inspected much more easily.

Incidentally – a Warré with frames is still called a Warré. Abbe Emile Warré included a frame option in his original plans.

Photographs and diagrams by Deanna Corbett.

We want your burning questions!

Do you have a burning question about beekeeping? Are you worried about your beeswax? Mystified about moths moving in? 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.*

Proposed AFB NPMS budget

The input of beekeepers is sought on the proposed AFB NPMS 2011/2012 Operational Budget, running from 1 June 2012 through 31 May 2013.

Biosecurity (American Foulbrood – Apiary and Beekeeper Levy) Order 2003. Payment of levy

Section 16: Consultation on how Levy is spent.

(1) The Management Agency must, before the start of each levy year, consult with beekeepers on how the levy money is to be spent.

(2) The Management Agency must use the following process to consult with beekeepers.

(a) it must send to every beekeeper a proposed budget for the levy year's expenditure; and

(b) it must give every beekeeper an opportunity to make submissions to it on the proposed budget; and

(c) it must send to every group or association of hobby and commercial beekeepers known to it a copy of the proposed budget.

The budget presented is for the coming year 2012–2013 operational period, from 1 June 2012 to 31 May 2013.

The budget outlines how the Management Agency intends to spend levy income for the above period.

If the Budget is approved, the levy will be set at $20 per beekeeper and $13.00 per apiary.

Important: if you wish to make a submission on the proposed budget, then please do so in writing by 1 December 2011 to:

Rex Baynes, AFB NPMS Manager, PO Box 44282, Lower Hutt.
Email: rbaynes@ihug.co.nz

NB: As with the previous year's budget, we have not allocated expenditure to the particular account categories as we have done in the past, but identified the likely main contractual arrangements the Management Agency will have.

The Management Agency wishes to gradually build up a reserve in order to maintain the strategy's financial viability as well as being able to call on funds for unbudgeted priorities.

Beekeepers will realise that without the formal gazette notice and because we are estimating income and expenditure up to 18 months ahead, it is extremely difficult to accurately categorise the amounts.

Proposed AFB NPMS Operational Budget 2012–2013

Income:	Levies (Beekeepers)	67,000.00	
	Levies (Apiaries)	306,000.00	
	Interest Received	6,200.00	
	Defaults & Other income	5,000.00	
			$384,200.00
Expenditure:			
	Management Agency admin	80,000.00	
	AsureQuality Limited contract	88,000.00	
	Hive Inspections	77,000.00	
	AFB Spore testing	17,000.00	
	AFB Recognition Training	14,000.00	
	Meetings & travel	10,000.00	
	Accounting, legal & audit	8,000.00	
	Other general expenditure	40,000.00	
	Aerial surveillance (unregistered apiaries)	10,000.00	
			$344,000.00

Deadlines for advertising and articles

Advertising deadlines

Advertising is now due on the 6th of the month prior to publication.

Material received after the 15th of the month prior to publication may not be published.

In order to be fair to all advertisers who occasionally offer deals for a limited time period in their ads, there will be no exception to these rules.

Article deadlines

Articles are now due on the 6th of the month prior to publication. Material received after the 15th of the month prior to publication may not be published.

Contacts

Advertising: sales@southcityprint.co.nz
Articles: editor@nba.org.nz
Membership and subscription enquiries: secretary@nba.org.nz

Do's and don'ts of AFB control

Do

- Inspect your hives for AFB at least twice a year.
- Inspect hives before removing bees, honey or equipment.
- Inspect all brood frames.
- Shake bees off frames before inspecting them.
- Train yourself and your staff in techniques to recognise and eliminate AFB.
- Report AFB to the Management Agency within 7 days.
- Burn infected colonies.
- Feed pollen substitutes rather than pollen.
- Feed sugar syrup rather than frames of honey.
- Use hive and apiary quarantines.
- Only use approved sterilisation methods.
- Use a thermometer and timer when paraffin wax dipping (10 min at 160°C).
- Treat hives to clear up parasitic mite syndrome (PMS) before checking for AFB.
- Become an approved beekeeper.
- Get suspect AFB samples tested.

Don't

- Don't feed drugs for control of AFB.
- Don't scorch boxes to sterilise them.
- Don't try to control AFB by removing diseased frames.
- Don't extract honey from infected colonies.
- Don't feed bee-collected pollen to colonies.
- Don't feed extracted honey to bees.
- Don't let hives be robbed out.
- Don't shook swarm.
- Don't let stock knock over beehives.
- Don't use steam chests to sterilise infected equipment.
- Don't distribute the equipment from dead hives between other hives.
- Don't allow colonies to die of varroa or any other cause.

[Excerpted from the revised edition of *Elimination of American Foulbrood Disease without the use of Drugs—a practical manual for beekeepers,* by Dr Mark Goodwin.]

Beekeeping and the law

New Zealand beekeepers have a number of legal obligations that must be met regarding American foulbrood disease.

In summary, the most important of these obligations are to:

1. Only keep bees in moveable frame hives.
2. Keep access to apiary sites clear from obstruction.
3. Not feed drugs or substances that mask, obscure or conceal the symptoms of AFB.
4. Not keep beehives more than 30 days in a place other than a registered apiary.
5. Register all apiaries with the Management Agency.
6. Mark all apiaries with the beekeeper registration code.
7. Change registration numbers only by the beekeeper who has the code number assigned to them, unless permission to do so is provided by the management agency.
8. Remove all identification codes when transferring the ownership of the hives.
9. Where a case of AFB is found, the owner of the hives must report to the Management Agency within 7 days of becoming aware of the case.
10. Complete an Annual Disease Return by 1 June each year.
11. Destroy equipment and bees associated with a case of AFB within 7 days.
12. Not deal with or transfer ownership of material associated with a case of AFB.
13. Sterilise beekeeping equipment only by approved methods.
14. Ensure hives are inspected for AFB by an approved beekeeper with a DECA provided to the Management Agency by 30 November (unless there is a certificate of inspection exemption).

Under certain conditions there are some exemptions for these obligations.

[Excerpted from the revised edition of *Elimination of American Foulbrood Disease without the use of Drugs—a practical manual for beekeepers,* by Dr Mark Goodwin.]

IMPORTANT NOTICE TO CERTAIN BEEKEEPERS

If you do <u>not</u> hold a Disease Elimination Conformity Agreement (DECA) this notice applies to you.

You are required by law to have your hives inspected by an approved beekeeper by on or before 30 November 2011 (Wednesday).

Clause 32
Biosecurity (National American Foulbrood Pest Management Strategy) Order 1998

Failure to comply will result in:

- The Management Agency arranging for your hives to be inspected at your cost.
- Your details will be forwarded to MAF Biosecurity.
- The Management Agency considering undertaking a prosecution under section 154 (q) of the Biosecurity Act 1993.

AFB NPMS report, 1 July 2010–30 June 2011

By Rex Baynes, AFB NPMS Manager

The following report was presented on 29 June 2011 to the Annual General Meeting of the National Beekeepers' Association (Inc.) of New Zealand at its annual conference in Auckland.

Introduction and background

New Zealand has had legislation to control AFB since 1906. The most recent change in that legislation occurred in 1998, when the Biosecurity (American Foulbrood National Pest Management Strategy) Order was passed into law. The Order established an American Foulbrood Pest Management Strategy (AFB NPMS) under the Biosecurity Act 1993.

The Biosecurity Act 1993 allows New Zealand agricultural industries affected by a pest or disease to determine their own goals and strategy for its control, and to use legal powers to ensure the strategy is carried out. In the case of AFB, the NBA, being the main representative organisation representing the beekeeping industry, developed the AFB NPMS, and went through the process of having the strategy approved by government.

The Management Agency for the AFB NPMS is the NBA. The NBA has a statutory responsibility to implement the AFB NPMS, which comprises a range of regulatory and educational programmes. The strategy is funded using income generated from a mandatory levy on beekeepers and apiaries through the Biosecurity (American Foulbrood – Apiary and Beekeeper Levy) Order 2003.

The Management Agency

The Management Agency for the reporting period consisted of the following NBA representatives:

Mr Frans Laas (Chairman)	Otago
Mr Barry Foster	Poverty Bay
Mr Neil Mossop	Bay of Plenty
Mr John Hartnell	Christchurch
Mr Chris Shaw	Te Anau

Chris Shaw joined the Management Agency in March 2011.

Beekeeper, apiary and hive numbers

As at 20 June 2011 there were 3,265 registered beekeepers operating 391,540 hives on 23,356 registered apiaries. By comparison, the June 2010 statistics quoted 2,957 beekeepers, 22,440 apiaries and 376,672 hives.

	2000	2002	2004	2006	2008	2010 (30 June)	2011 (20 June)
Registered Beekeepers	4,864	3,973	3,211	2,694	2,589	2,957	3,265
Number of Apiaries	21,633	20,258	19,592	18,954	20,439	22,440	23,356
Number of Beehives	299,712	305,152	292,530	300,728	343,155	376,672	391,540

Disease reports

Between 1 June 2010 and 31 May 2011, 1,093 cases of AFB were found by beekeepers and/or AsureQuality staff in 579 apiaries. This is an average disease rate of 0.28% of hives. Of these AFB reports, 137 cases were found and reported in hives on 69 apiaries owned by beekeepers who are not DECA holders. This represents 0.96% of the total number of hives held by non-DECA holders.

Disease Elimination Conformity Agreements (DECA)

As at 20 June 2011 there were 1,970 beekeepers with DECAs and a Certificate of Inspection Exemption (60% of beekeepers). These beekeepers are able to inspect their own hives for AFB and make reports to AsureQuality on the authorised forms.

340 new DECAs were approved in the reporting period and 15 existing DECAs were reviewed. There were no DECA's revoked during the reporting period. Since September 2008 beekeepers have been required to sit and pass the AFB competency exam prior to applying for a DECA.

Certificate of Inspection (COI)

There were 1286 beekeepers who owned 14,205 hives on 2,353 apiaries that required a COI on 20 June 2011. The number of beekeepers in this category is about the same as last year despite the increase in beekeeping numbers. This reflects the large number of beekeepers upskilling themselves and becoming DECA holders.

From the following table it is noted the Management Agency has made significant inroads in regards to improving the COI compliance rate. The figure of 76% is still not acceptable.

It is timely that I provide an explanation as to how the Management Agency has achieved a much-improved figure of 76% in terms of compliance.

In early August 2010 (as in past years), I mailed to approximately 1300 beekeepers who do not hold a Disease Elimination Conformity Agreement (DECA):

Continued on page 27

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We are still selling over one million strips per year with 99% of customers happy with efficacy, however it's now more important than ever before to ensure that you use the correct dosage – being 4 strips per full depth single brood chamber - and to test their effectiveness after the treatment has been completed.

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Bayvarol is New Zealand's most popular Varroa treatment, for **very** good reason.

Current prices as at 1st October 2011

20 to 80 strips	$2.09 + GST each
100 to 780 strips	$1.96 + GST each
800 to 8800 strips	$1.59 + GST each
9600 plus strips	$1.54 + GST each

Packets contain 20 strips, cartons contain 800 strips. For orders of up to 100 strips please add $7 incl. GST for freight. Orders of 100 strips or more are despatched freight free to anywhere in New Zealand. Payment is required prior to despatch by Visa, M/Card, Cheque or Electronic Banking.

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Continued from page 25

- their COI inspection form for completion and return
- a covering letter emphasising their legal responsibilities (hives to be inspected by 30 November) etc.
- a schedule providing the names of Approved Beekeepers (DECA holders in their immediate area) who had earlier agreed to have their names and contact details released and who were prepared to inspect hives
- a schedule detailing some 16 planned AFB Recognition courses nationwide.

Subsequent to the above, the need for inspections to be carried out was given wide and extensive publicity (*The New Zealand BeeKeeper* Journal, October 2010), as well as email communication to all constituent beekeeper organisations involved in the industry. A glossy flyer was also mailed in late October 2010, while at the same time a telephone chase-up programme commenced.

In early December 2010 I commenced the task of contacting some 50 Authorised Persons (AP2s) to assist in a nationwide COI default inspection programme, an undertaking that has to my knowledge not been attempted before under the AFB NPMS.

Overall, the percentage increases in regards to compliance tends to speak for itself, especially when compared to the dismal results of past years.

I am not sure if the approach taken in 2010/2011 is the right one; however, I believe we have given a much stronger message to non-DECA holders to honour their responsibilities under the AFB NPMS.

The Management Agency will be reviewing the process in readiness for the next round in August.

Year (as at June)	Beekeepers	Apiaries	Hives	Compliance Rate
2004	845	1650	14776	----
2005	741	1476	14916	14%
2006	577	1188	11465	18%
2007	534	1187	12027	22%
2008	537	1092	11062	30%
2009	1090	2559	32081	29%
2010 (March)	1298	2400	23186	64%
2011 (June)	1286	2353	14205	76%

AFB Recognition Course training

Given the upward trend in beekeeper numbers over the last two years or so, the Management Agency has, in the last 12 months, moved quickly to ensure there are adequate AFB Recognition courses available nationwide to accommodate the needs of new beekeepers who require AFB Recognition training, and indeed those who require refresher training.

I am pleased to report that 490 beekeepers attended 33 scheduled courses in 2010, an especially pleasing achievement when compared to previous years: 2009 (356), 2008 (264), 2007 (453), 2006 (93) and 2005 (128).

We now have in place an excellent training structure whereby AFB Recognition courses are advertised and promoted well in advance.

It is appropriate that at this stage I acknowledge the excellent and unwavering assistance given to me by Mary-Ann Lindsay, who administers the tests.

I would like to acknowledge those people who have given of their time to assist in facilitating the various courses, without whose help the above results would not have been possible.

Carol Downer	*Auckland*
Kim Kneijber	*Auckland*
Peter Riem	*Auckland*
Bob Russell	*Auckland*
Ross Carroll	*Tauranga*
Mark Silson	*Katikati*
Phil Sutton	*Timaru*
Roger Bray	*Ashburton*
Jeff Chandler	*Christchurch*
Gavin McKenzie	*Waimate*
Lindsay Moir	*Christchurch*
John Berry	*Havelock North*
David Hills	*Napier*
Tom Taylor	*OngaOnga*
Mary-Anne Thomason	*Takapau*
Alan Richards	*Wanganui*
Will Trollope	*Blenheim*
Nigel Costley	*Nelson*
John Gavin	*Whangarei*
Simon Peacey	*Whangarei*
Sarah Peacey	*Whangarei*
Bruce Stevenson	*Kerikeri*
Dan Lambert	*Kerikeri*
Stephen Black	*New Plymouth*
Mark Berry	*Waiotapu*
Tony Lorimer	*Hamilton*
Bryan Mitchell	*Hamilton*
Peter Ferris	*Masterton*
Ian Moffatt	*Masterton*
Gerald Atkinson	*Martinborough*
Neil Farrer	*Wanganui*
Andrew Beach	*Paraparaumu*
Frank Lindsay	*Wellington*
Mary Allen	*Raetihi*
Paul Walsh	*Auckland*
Matt Tunzelmann	*Auckland*
Gary Glasson	*West Coast*
Frazer Wilson	*Takaka*
Frances Beech	*Levin*
Stephen Black	*Urenui*
Kevin Gates	*Christchurch*
Gerrit Hyink	*Katikati*
Judy Ferris	*Masterton*
Willie Kaa	*Gisborne*
Paul Badger	*Gisborne*
David Woodward	*Balclutha*
Brice Horner	*Outram*

Annual Disease Returns (ADR)

Clause 27 of the Order in Council requires all beekeepers to provide the Management Agency with an Annual Disease Return (ADR) updating their hive information. This information provides the basis for New Zealand's statistics on beekeeper and hive numbers and AFB incidence.

The Management Agency is delighted to report that compliance rates remain high; however, these results are only achieved by exhaustive follow up.

It is interesting to note that in the MAF Report on the American Foulbrood National Pest Management Strategy dated September 2008, the term "disturbing" was used when describing the lack of compliance during the late 1990s and early part of the new millennium. →

MAF Biosecurity New Zealand—review of AFB NPMS

Submissions closed in January 2009. The Management Agency still awaits the outcome of this review, despite submissions having closed some 28 months ago.

APIWEB

In mid-January 2011, APIWEB was released to commercial beekeepers who at the time had 500 or more hives registered. This included approximately 200 beekeeping enterprises which between them manage over 304,000 hives on 15,132 apiaries. While this is a relatively small group, it should be noted that this group accounts for almost two thirds of the apiary records held on the apiary database. I mention this as now the majority of apiary records can now be updated online by the beekeepers themselves.

APIWEB development has been funded jointly by AsureQuality, MAF Biosecurity New Zealand and the AFB NPMS and allows beekeepers to access only their own personal and apiary information held on the database.

AsureQuality is reporting APIWEB is coping well with the current volume of information being processed through the system but has not been without the odd issue (mostly at the data capture end of the process). There have been a number of suggestions for improvement, which of course is always welcome. Some of these have been acted on already, while others will have to be placed in abeyance pending the availability of more development funds becoming available. One such suggestion being considered is the ability to print off a Master Beekeeping List, this being a line-by-line record of the beekeeper's apiary holding.

I am pleased to report that the second phase of beekeepers has been rolled out; these being in the 50 to 500 hive range. This group totals 335 beekeepers and has taken the total percentage of apiaries able to be managed via APIWEB to 84%.

AFB NPMS website (www.afb.org.nz)

The website has been reviewed by both Neil Farrer and Rex Baynes as recently as last week *[Editor's note: meaning in late June]*, with several updates and enhancements planned.

Operations Manual

The Management Agency has continued to review the Operations Manual. This task involves time in discussion during which the development of policy takes place.

The Manual will require a further round of updating once Biosecurity New Zealand confirms changes to the AFB NPMS following the review as mentioned above.

Court action to recover outstanding debt

It is with disappointment that we report that it was necessary during this period to initiate court action to recover significant debt.

The Management Agency has initiated further court action against several beekeepers who refuse to pay, despite having received various reminders.

Acknowledgement

As the AFB NPMS Manager, I am extremely fortunate to have supporting me such a dedicated and able group of people who make up the Management Agency.

My sincere thanks to you all for your continued guidance and advice.

Conclusion

I believe the strategy is meeting both its objectives and targets; however, the Management Agency cannot do it alone—it requires total support from the industry.

Top bar hives: a position statement

By the AFB NPMS Management Agency

At a recent meeting of the Management Agency of the American Foulbrood National Pest Management Strategy (AFB NPMS), the legality of top bar and Warré hives was discussed at some length.

A number of submissions from owners of top bar hives, from those that have been inspecting top bar hives and from others such as MAF were considered.

The Management Agency concluded that the use of these hives is, at best, against the spirit of the Biosecurity (National American Foulbrood Pest Management Strategy) Order 1998. This Order is about to be reviewed and the Management Agency is working with MAF to ensure that a revised Order ensures that beehives in New Zealand contain frames that surround the comb. This will mean that all hives can be easily inspected for AFB without cutting comb from the walls of hives and without having multiple combs on a single bar.

All beekeepers will be expected to comply with the new Order when it is released at some date during 2012.

Elsewhere in this issue of *The New Zealand BeeKeeper*, an article written by Deanna Corbett gives some ideas as to how frames can be added to top bar and Warré hives.

This should enable beekeepers with top bar hives to plan ahead and equip their hives with compliant frames ahead of the new Order being released.

In the meantime, the Management Agency invites all owners of top bar hives to apply to the Agency for an exemption from the obligation to keep bees in a moveable-frame hive. Such an exemption can be granted under Section 12 of the Order.

To apply for an exemption, please write to Rex Baynes, Manager AFB NPMS at the address on page 3 of this journal, stating your name, address, beekeeper registration number and the number of top bar hives you possess at each apiary site you have registered.

The Agency looks forward to working with all beekeepers to ensure that all hives are easily inspectable for AFB.

AMERICAN FOULBROOD NATIONAL PEST MANAGEMENT STRATEGY

New Zealand beekeeper, apiary and hive statistics by apiary district as at 13 September 2011

Apiary Register Location	Category 0-5 Hives		
	Beekeepers	Apiaries	Hives
Blenheim	198	229	408
Canterbury	387	448	748
Hamilton	144	154	283
Otago/Southland	245	278	604
Palmerston North	458	513	844
Tauranga	127	146	248
Whangarei	475	532	988
New Zealand	2034	2300	4123

Apiary Register Location	Category 6-10 Hives		
	Beekeepers	Apiaries	Hives
Blenheim	29	49	232
Canterbury	38	66	283
Hamilton	22	31	155
Otago/Southland	56	81	435
Palmerston North	77	120	603
Tauranga	37	60	321
Whangarei	106	179	826
New Zealand	365	586	2855

Apiary Register Location	Category 11-50 Hives		
	Beekeepers	Apiaries	Hives
Blenheim	29	89	770
Canterbury	49	190	1087
Hamilton	24	83	637
Otago/Southland	42	98	1004
Palmerston North	68	233	1902
Tauranga	44	100	1141
Whangarei	87	220	1902
New Zealand	343	1013	8443

Apiary Register Location	Category 51-250 Hives		
	Beekeepers	Apiaries	Hives
Blenheim	14	185	1816
Canterbury	25	351	3323
Hamilton	14	111	1763
Otago/Southland	29	289	3832
Palmerston North	39	381	4805
Tauranga	45	316	5086
Whangarei	51	365	6111
New Zealand	217	1998	26736

Apiary Register Location	Category 251-500 Hives		
	Beekeepers	Apiaries	Hives
Blenheim	12	307	4738
Canterbury	24	662	9714
Hamilton	8	281	4504
Otago/Southland	11	298	4286
Palmerston North	20	333	6552
Tauranga	32	467	10236
Whangarei	15	295	5837
New Zealand	122	2643	45867

Apiary Register Location	Category 501-1000 Hives		
	Beekeepers	Apiaries	Hives
Blenheim	12	478	7917
Canterbury	15	666	10603
Hamilton	11	458	9707
Otago/Southland	22	983	15196
Palmerston North	15	656	12568
Tauranga	23	558	14737
Whangarei	12	445	8647
New Zealand	110	4244	79375

Apiary Register Location	Category 1000+ Hives		
	Beekeepers	Apiaries	Hives
Blenheim	8	704	12875
Canterbury	13	1379	29650
Hamilton	12	1347	35530
Otago/Southland	13	1309	24779
Palmerston North	15	2517	53030
Tauranga	21	2016	44447
Whangarei	14	1745	35830
New Zealand	96	11017	236141

Apiary Register Location	Total		
	Beekeepers	Apiaries	Hives
Blenheim	301	2010	28256
Canterbury	551	3762	55408
Hamilton	235	2465	52579
Otago/Southland	416	3279	49136
Palmerston North	691	4733	79804
Tauranga	328	3655	75966
Whangarei	760	3781	60141
New Zealand	3282	23685	401290

Office of Hon David Carter

Minister of Agriculture
Minister for Biosecurity
Minister of Forestry

Min10-922

26 JUL 2011

Rex Baynes
The National Beekeepers' Association of New Zealand Inc
P.O. Box 44 282
LOWER HUTT 5040

Dear Rex Baynes

Thank you for your letter of 6 May 2011 concerning the American foulbrood national pest management strategy (AFB strategy).

I agree that the review of the AFB strategy has been unduly prolonged. While you suggest that 27 months have passed since submissions closed, I understand that the Ministry of Agriculture and Forestry (MAF) released a review of those submissions in June 2010, and requested further submissions on several additional topics. That second round of submissions closed in August 2010.

MAF's biosecurity staff have had a high workload over the past year. A number of projects including the AFB strategy review have not been progressed because of more pressing work priorities, such as the arrival of the kiwifruit Psa vine disease. MAF advises me that the current AFB strategy remains in force and provides a basis for effective management of the disease.

MAF has recently set its priorities for the next twelve months and has committed to completing the review of the AFB strategy by June 2012. If this is affected by unforeseen circumstances such as a major pest incursion MAF will let you know directly.

I appreciate the delays to date have been frustrating to you. You are welcome to advise those concerned that the review is a government responsibility, and that you have contacted me to urge prompt completion.

I hope the Association's annual conference went well. Unfortunately I was unable to attend this year due to an overseas travel commitment.

Yours sincerely

Hon David Carter
Minister for Biosecurity

Private Bag 18041, Parliament Buildings, Wellington 6160, New Zealand. Telephone 64 4 817 6809 Facsimile 64 4 817 6509

AFB Recognition Courses

By the Management Agency, AFB NPMS

We are providing non-DECA holders with the opportunity to attend a course and take the test. This is an essential step to becoming a DECA holder.

Please note that at the time of going to print certain arrangements still needed to be confirmed on some courses.

Important:

If you are planning on attending an AFB Recognition Course, it is strongly recommended that you obtain a copy of the booklet titled *Elimination of American Foulbrood Disease without the Use of Drugs*, commonly referred to as the 'yellow book'.

This worthwhile publication can be obtained from:

- Your local beekeeping supplier
- National Beekeepers' Association (Inc.)
  PO Box 10792, Wellington
  Attention: Jessica Williams
  Phone: (04) 471 6254
  Email: secretary@nba.org.nz
  Cost: $31.50 (includes $1.50 postage)

Course locations

Northland

Host: Whangarei Bee Club (Inc.)
Trainers: Peter Smith, Mike Fox and Bryce Hunter
Venue: Whangarei or nearby
Dates: Courses to be convened at least 4 times a year in conjunction with club training days and dependent on demand.
Start: On completion of club training and after lunch
Cost: $80.00 (includes training course and test)
Registration: Deadline will be 14 days prior to training course and receipt of fees.
Catering: Morning, afternoon tea and lunch provided.
Contact: Please contact whangareibeeclub@xtra.co.nz to register.

South Canterbury

Host: Agribusiness Training Ltd
Trainer: Phil Sutton
Venue: Agribusiness
8 Pleasant Point Highway
Washdyke
Timaru
Date: 19 November 2011 (Saturday)
Start: 9.30 am
Cost: $80.00
Registration: Deadline 4 November 2011 (Friday)
Catering: Morning, afternoon tea and lunch provided.
Contacts: phil@pointer.co.nz
or gayc@abt-timaru.co.nz

Waikato

Host: Waikato Branch of the National Beekeepers' Association of New Zealand (Inc.)
Date: 19 November 2011 (Saturday)
Venue: Matangi Hall
Tauwhare Road
Matangi Village
Start: 9.00am
Finish: 3.00pm
Cost: $25.00 for the course plus $30.00 to sit the test – total $55.00
Catering: BYO Lunch, coffee and tea provided.
Registration: Deadline 4 November 2011 (Friday)
Contact: Tony Lorimer (07) 856 9625
Note: Course duration 6 hours including taking the test.

Taranaki

Host: Management Agency AFB NPMS
Trainer: Stephen Black
Venue: TBA
Date: 3 March 2012 (Saturday)
Start: 9.30 am
Cost: $30 for the course plus $30.00 to sit the test (total $60.00)
Registration: Deadline 17 February 2012 (Friday)
Catering: Morning, afternoon tea and lunch provided.
Contact: Stephen Black
bees@beesrus.co.nz

West Coast

At this stage a course is not scheduled; however Gary Glasson, AFB Recognition Course trainer, has advised should there be enough interest a course will be arranged a short notice.

Gary can be contacted on gary.sue.samuel@xtra.co.nz

Otago/Southland

Host: Agribusiness Training
Trainer: Brice Horner
Dates: 9, 10 and 11 December 2011 (Friday–Sunday)
Venue: Mosgiel (Venue TBA)
Cost: TBA
Catering: BYO Lunch (coffee and tea provided)
Registration: Deadline 25 November 2011 (Friday)
Contacts: Brice Horner (03) 486 2299 or (027) 441 0344 or
Rachelle (0508) 247 428 Ext. 1

Christchurch District

Host: Canterbury Branch of the NBA
Trainers: Jeff Chandler and Lindsay Moir
Date: 19 November 2011 (Saturday)
Venue: Lincoln University (Building/Room TBA)
Start: 8.45 am (likely conclusion 1.30pm)
Cost: Course attendance $35, test costs $30 (Total $65)
Catering: BYO Lunch – coffee and tea provided.
Registration: Deadline 1 November 2011 (Tuesday)
Contacts: Jeff Chandler (03) 385 5375
Jchandler38@gmail.com
or Lindsay Moir (03) 388 3313
brightonmoirs@xtra.co.nz

If you want to attend a course not mentioned above, contact your Branch secretary for details of new courses in 2012.

Coming to an apiary near you!

By Fiona O'Brien, Waikato Disease Coordinator

Across New Zealand, apiary sites are selected from the American Foulbrood National Pest Management Strategy (AFB NPMS) database for auditing. Some are selected randomly; others are targeted.

Region by region, warranted beekeepers (Authorised Persons level 2, or AP2s) are given these apiary sites either as part of a collective diseaseathon, or as individual inspectors to go and lift lids to inspect for American foulbrood.

The aim of these inspections is to make sure that the education and Disease Elimination Conformity Agreement (DECA) process has a credible audit process: it allows the AFB NPMS Management Agency (MA) to determine the overall picture of AFB across the country.

In New Zealand there are two types of inspections. Under the Biosecurity Act 1993, your hives can be inspected for American foulbrood and/or exotic diseases. This may occur at different times of the year and by different inspectors. Inspectors are called Authorised Persons (AP).

An Authorised Person will be either a level 1 (AP1) or a level 2 (AP2) beekeeper. AP1s are usually AsureQuality Limited personnel, as they hold more power under the legislation.

An AP2 beekeeper will have completed an Authorised Persons training course, usually has been beekeeping for some time, must be compliant with the AFB NPMS, and last, but not least, completes a police check to become a warranted officer. The training course covers relevant legislation, disease diagnosis, inspection etiquette and mapping.

When carrying out inspections, all Authorised Persons will carry their warrants and ID with them. A good piece of advice when talking with your farmers or landowners is to let them know about the provisions of the AFB NPMS, and that the only time that anyone can check your hives is if they are carrying a warrant and ID. We all hear stories of wayward beekeepers that jump the fence to check out hives that don't belong to them or hives that are stolen. No warrant—no check!

It is also important to note that an AP2 cannot just jump the fence to check a hive. An AP2 can only check a hive under the direction or instruction of the AFB NPMS Management Agency, MAF, or their respective representatives. This will often be an AP1. That is why you have a disease coordinator: that person has taken all the instruction from an AP1 at AsureQuality Limited; in other words, has gathered all the information from AsureQuality and the AFB NPMS Management Agency and passed it on to the AP2s, ready for inspecting.

An AP2 can gather information about an unregistered apiary; i.e., who might own the beehives, the landowner etc.

How will you know if you have had your hives inspected? An advice of visit notice will be left under the hive lid, usually in a plastic bag. This will advise who carried out the inspection, the date of inspection, and, most importantly, whether the hives were or were not apparently free of AFB.

What if AFB is found? In all cases he/she will take a sample, which will be given back to AsureQuality Limited. The inspector will mark the hive with the words AFB. AsureQuality will contact you directly to work with you in the terms of your Disease Elimination Conformity Agreement (DECA). If you do not have a DECA, then AsureQuality will work with you in advising the best way to dispose of the hive and bees.

It is important to know that the inspector and inspection teams have a set of procedures that they follow, including cleaning of hive tools, smoker, sterilising gear, etc.

Frequently asked questions

Can I be involved in checking for AFB?

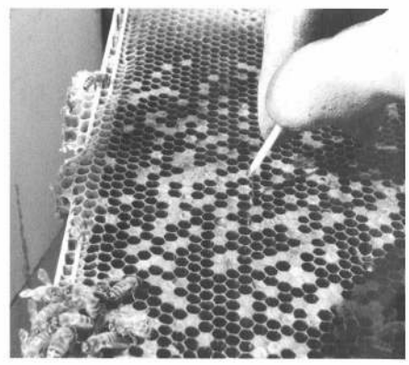
As part of the education process of learning to identify and eliminate AFB from New Zealand, the AFB NPMS Management Agency encourages beekeepers to be actively involved in diseaseathons. Inspections for 2011 have been held in the Waikato and Bay of Plenty and shortly will get under way in Hawke's Bay, Otago and Whangarei. This is an opportunity to see experienced beekeepers checking for AFB.

How will I know that the inspections are going to take place?

The disease coordinators will usually communicate through e-mail to NBA branches, beekeeping groups and clubs in the region that a diseaseathon will take place, and will often also provide some form of notice in *The New Zealand BeeKeeper* journal.

I was audited last year, why am I being checked again?

- Have you complied with the AFB NPMS?
  - Have you filed your Certificate of Inspection?
  - Have you filed your Annual Disease Return?
- Was American foulbrood detected in your inspection last year?
- Maybe disease has been found and reported near your apiary.



AP2 conducting a Field Diagnosis. This technique, routinely used is called the ropiness test.

As you can see, there are a number of reasons why your apiary could be selected for auditing.

How much will the inspection cost?

If you are fully compliant with the strategy, then nothing! The only time costs are charged will be for default inspections; i.e., those beekeepers not complying with requests to file their Certificate of Inspection.

As a beekeeper can I stop anyone checking my hives?

You can ask to see a warrant and ID and if the person does not have these, you can refuse them entry to your hives.

Can the inspector work the hives for me?

The inspector is there only to look for American foulbrood.

I don't want the inspector to check that particular apiary because it has my $1000 breeder queen in it and they might kill her! Or it's my general queen-rearing yard!

The AFB NPMS Management Agency recommends that you update APIWEB (in the "Location on property" field) with particular information about special sites. If that apiary is randomly selected, the branch disease coordinator will see that information come through on an inspection notice and then it can be inspected independently.

AP2 checking brood for sunken, discoloured or perforated cappings. Photos: Fiona O'Brien.

Tools to assist employers

From the Department of Labour

The Department of Labour has a number of online tools available to help employees, employers, businesses and potential migrants navigate some of the more commonly raised issues and concerns about working and living in New Zealand.

A good place to start is our **FAQ knowledge database**. Here you'll find answers to frequently asked questions about health and safety, employment relations, pay and holidays matters.

We can help if you're about to offer someone a job. Our **Employment letter builder** provides three covering letters for offers of employment that employers can customise. Each deals with a different circumstance.

Did you know that anyone employed after 2 October 2000 must have a written employment agreement? This applies regardless of whether it's an individual agreement or a collective agreement. The online **individual employment agreement builder** can help you put together an agreement. It also gives examples of clauses from existing employment agreements; indicates clauses legally required in all agreements; and offers a range of clauses to meet any additional needs.

Our website provides a **holidays and leave tool** which can help to point you in the right direction if you want to know about public holidays, alternative holidays, sick, and bereavement leave. It also has information about calculating payment for these days, as well as determining entitlements to public holidays.

Infozone: Business Essentials explains the basics of employment relations and health and safety requirements for running a business. It provides templates, examples and links to practical tools and more detailed information.

Ask a question about immigration allows you to ask questions about a wide range of immigration issues.

Meanwhile **VisaView** is a tool available to employers to help them easily confirm information about an employee's entitlement to work. Once registered, employers can check information such as a passport number and surname against the Department's database and in most cases quickly receive a response. This will include information on the employee's expiry date of the visa and any specific work conditions that may apply to the individual. VisaView also enables registered employers to confirm New Zealand passport information provided by the jobseeker.

The **Workplace Productivity Snapshot** can help small to medium businesses identify productivity improvements in their place of work—we also have a range of case studies available online where you can read about real examples of productivity gains in New Zealand businesses.

AFB spores will only multiply inside a larva. *(Source:* Elimination of American Foulbrood Disease without the use of Drugs: A practical manual for beekeepers (revised edition), *by Mark Goodwin, page 14.)*

Safe spray practice sticker developed

From Agcarm

October's issue of *The New Zealand BeeKeeper* includes a high-quality sticker to help promote safe spray practice around bees.

Beekeepers are urged to place the sticker in a prominent place to remind spray contractors, farmers, and growers about the importance of keeping chemicals away from bees.

Working together, the National Beekeepers' Association and industry association Agcarm decided a sticker was a simple and convenient way to encourage safe spray practice.

"'Bee Safe, Spray Safe' is a clear message to all sprayers to take responsibility for keeping bees healthy," said Graeme Peters, chief executive of Agcarm, which represents makers and sellers of crop protection products.

"Sprayers need to read the label for any bee safety messages, and always follow the instructions. They also need to take care when using mixers and other adjuvants, which improve the penetrating power of some sprays but which can be toxic to bees."

The sticker idea first emerged at a joint meeting between Agcarm, GROWSAFE, and the NBA executive earlier this year.

Agcarm funded the design and production of the sticker, while the NBA offered a way to distribute one to every beekeeper in the October issue of its monthly magazine, which has a circulation of 3500.

Federated Farmers Bees and Rural Contractors New Zealand are supporting and helping distribute the sticker.

NBA joint chief executive Pauline Downie said the sticker was one example of the association's work with stakeholders to keep bees healthy.

"GROWSAFE, the national spray training organisation, is reviewing its training in bee safety, and Agcarm is scoping a research project on the impact of surfactants on bees," she said.

Agcarm is also working with its members to identify new control methods for varroa, which is showing signs of resistance to existing chemical treatments.

If you want more of the free stickers, email enquiry@agcarm.co.nz

AsureQuality Limited report to Conference

By Murray Reid, National Manager Apiculture

The following report was presented to the annual conference.

Beekeeper, apiary and hive numbers

There were 3270 beekeepers, 23,431 apiaries and 391,765 hives on the 24th of June 2011. This compares to 2957 beekeepers owning 376,672 hives on 22,440 apiaries this time last year. Over the last 12 months beekeeper numbers have increased by an amount similar to last year (10%). This was largely in the hobbyist sector (5 hives or less) where a 15% increase in numbers was observed. This is the second year in a row, since the varroa bee mite arrived in 2000, that there has been a net increase in beekeeper numbers. There is a strong interest from hobby beekeepers in natural foods, pollination and producing their own food while commercial entrants are attracted by the high manuka prices. Hive numbers increased by another 14,000 or 4 percent.

Honey crop

The New Zealand honey crop for 2010/11 was estimated at 9447 tonnes; down 3106 tonnes (33 percent) on the 2009/10 crop of 12,553 tonnes. The per hive production figure decreased 38 percent from 33.3 kilograms per hive to 24.2 kilograms per hive. This is the lowest per hive production figure recorded since 2002 and is due to the short crop and a four percent increase in new hives (14,000).

Regional honey production figures for the past six years are summarised in Table 2. Like last season there were marked regional differences in 2010/11 and even within regions. All regions experienced a reduction in honey production with the exception of Northland and parts of the Auckland region, which recorded a 55 percent increase over last season.

Wet and cold changeable weather was experienced over most of the North Island in September and October, which made spring management of colonies very difficult. Beekeepers reported increased losses of queen bees and colony losses as high as 30 percent and having to feed extra sugar and protein supplements.

The weather improved later in the year but significant rain events late in December and in January effectively stopped the nectar flow and resulted in a below-average honey crop. One beekeeper reported losing 500 hives in floods, while others lost hives from several apiaries and suffered flood damage to honey factories and buildings. Beekeepers in the Western and Eastern Bay of Plenty experienced a disastrous crop with yields of 5–10 kilograms per hive. Elsewhere in the North Island, regional differences were marked but overall crops were 11 to 40 percent down on last year's production.

Beekeepers in Nelson, Marlborough and the West Coast harvested early kamahi crops but bad weather late in December greatly affected yields from rata and manuka. The crop for this area was estimated at 470 tonnes down 66 percent on last year's 1400 tonne crop. The six-year average for this region is 890 tonnes.

Canterbury's crop was down 53 percent at 1045 tonnes. The season looked promising initially with good pasture growth and early crops were harvested off clover and honeydew. Bad weather late in December stopped the nectar flow and it never really resumed. Otago and Southland experienced variable nectar flows but the final crop of 1144 tonnes was down 18 percent on last year's figures. Yields ranged from an average of 28 kilograms per hive in Central Otago, where thyme flowers produced a crop, to Central Southland and North Otago where yields were as low as 10 kilograms per hive.

Exports continue to grow

The export value of honey, beeswax and live bees is estimated at $102 million for the year to December 2010, up five percent on the $97.5 million exported in 2009. A record 8208 tonnes of honey was exported in the year ending 31 December 2009, and 6555 tonnes of honey in 2010. However, exports for the first four months of 2011 were 21 percent up in NZ dollar terms on the same period last year. The apiculture industry traditionally exports 20–40 percent of the annual honey crop to maintain domestic market stability; however, in the past three years 50–60 percent of the crop has been exported.

Export of live bees

Shipments of live bees to Canada provided a good income stream for beekeepers able to deliver bees to North Island collection centres. In 2010/11, 31,558 one-kilogram packages of bees were exported to Canada, which was down six percent on 2009/10 record exports. The five-year average is 22,122 packages. Package bee exports were achieved despite the relatively high New Zealand dollar and reflected an ongoing lift in world honey prices and winter losses in Canada of up to 30 percent of beehives. Export of queen bees to Canada was up seven percent to 7586. In addition, 4855 queen bees were exported to the UK and 1575 were sent to the USA. Prices paid to suppliers of live bees rose 4 percent to $26–$27 per kilogram for bulk bees, while prices for export queen bees remained at $25 per queen. →

Table 1: New Zealand beekeeper, apiary and hive statistics as at 24 June 2011

	Beekeepers	Apiaries	Hives
Northland–Auckland–Hauraki Plains	742	3673	59,354
Waikato–King Country–Taupo	228	2440	49,270
Coromandel–Bay of Plenty–Poverty Bay	327	3649	76,392
Manawatu–Taranaki–Hawke's Bay–Wairarapa	691	4560	73,621
Marlborough–Nelson–West Coast	295	1988	28,385
Canterbury	568	3807	55,670
Otago/Southland	419	3314	49,073
New Zealand	**3270**	**23,431**	**391,765**

Table 2: New Zealand honey crop (tonnes)	2006	2007	2008	2009	2010	2011	6-year average
Northland, Auckland, Hauraki Plains	1337	1252	1186	1756	1285	1992	1468
Waikato, King Country, Taupo	1124	1270	1436	1864	1584	1410	1448
Bay of Plenty, Coromandel, Poverty Bay	1937	1897	2492	2250	2376	1423	2063
Hawke's Bay, Taranaki, Manawatu, Wairarapa	1935	1912	2755	2082	2318	1963	2161
Marlborough, Nelson, Westland	690	675	966	1140	1400	470	890
Canterbury	2100	1620	1980	1718	2200	1045	1777
Otago, Southland	1300	1040	1560	1755	1390	1144	1365
New Zealand	**10,423**	**9666**	**12,375**	**12,565**	**12,553**	**9447**	**11,172**
Yield/hive (kg)	**34.7**	**30.7**	**36.0**	**34.7**	**33.3**	**24.2**	**32.3**

IN THE NEWS

Man sets beehive on fire

A Washington state fire chief says a man dumped gasoline on a beehive in a tree in retaliation for a bee sting

He then ignited the hive, causing an explosion heard throughout his suburban neighborhood just a few miles south of the Canadian border.

Lynden chief Gary Baar tells the Bellingham Herald that the Sunday night fire caused a large "whoosh," singed the tree and killed the bees but no people were hurt.

Baar says the man's friend had been stung earlier in the day. The fire chief says, "The correct way to do that is to call a beekeeper."

Firefighters explained that to the homeowner, and the newspaper says it doesn't appear that that the man will be cited.

(Source: CBS News, August 30, 2011. Retrieved September 14, 2011 from http://www.cbsnews.com/stories/2011/08/30/national/main20099142.shtml)

Queens are unlikely to transmit AFB but package bees can. *(Source:* Elimination of American Foulbrood Disease without the use of Drugs: A practical manual for beekeepers (revised edition), *by Mark Goodwin, page 32.)*

BPSC meeting report

By Dr Jim Edwards, Chairman

The Bee Products Standards Council (BPSC) met on Thursday, 8 September 2011, in Wellington.

The Chairman welcomed the new members appointed by the NBA. Following the retirement of Jane Lorimer from the BPSC, the NBA appointed Fiona O'Brien and David McMillan and in the process stood down Young Mee Yoon. Young Mee's scientific qualifications and expertise saw her appointed back to the BPSC by Federated Farmers Bees.

The Chairman reminded all Council members that they are in a privileged position and that they are party to often sensitive information which is shared confidentially within the BPSC. If further circulation results in loss of market access, the liability will rest with those who distributed it beyond the BPSC.

Administration matters considered included the management of the two cheque accounts operated by the BPSC and the agreement to register the BPSC for GST, given the amount of money being received to pay for research.

The Council received a report from Food Standards Australia New Zealand. There was discussion about the current PA Project and the ongoing work on tutin.

Representatives from Standards New Zealand met with the Council and discussed their consultative and consensus approach to standards setting. As a result, it was agreed that the Council would engage Standards New Zealand to make progress across the whole area of honey standards and establish national standards.

The BPSC noted the EU ruling on legalities of GMO Pollen in Europe and will continue to monitor the potential impact on New Zealand exports to the EU.

The Council received a report on the development of guidance for the industry prior to the 1 November implementation of EU OMAR, which will require use of electronic certification.

Beekeepers doing harvest declarations to the primary (originating) RMP premises would continue as normal. The electronic process starts when transfer statements are first required.

The move towards E-cert has advantages over the paper system. The Council noted that there was some confusion over nomenclature of electronic documentation (ED; aka EDoc, EDec, E-cert etc). There was discussion on the management of difficulties during the 1 November implementation and it was noted that training would be valuable and that it should be given during the quiet period.

Other matters considered by the BPSC included product handling including drums and residue issues around the planned use of the antibiotic streptomycin by the kiwifruit industry in their fight against Psa. The Council noted that the survey of 51 current samples showed no positive results for neonicotinoids.

Carol Barnao, the Deputy Director General for Standards, MAF, gave an update on the MAF amalgamation process. She told the Council that MAF has a new focus on partnering with industry to support business, market access, New Zealand standards and a longer-term approach. MAF needs one-stop shops with Councils that have people brought in from MAF and industry. At the next meeting the BPSC will again discuss to ensure that BPSC will be able to engage people right across MAF. MAF's focus will be on good communication and strategic views.

Dr David Hayes, Director Readiness and Response, Director Passenger Clearance and Acting Director Cargo joined the meeting by teleconference to report back on biosecurity issues. The Council was joined by Daniel Paul and Pauline Downie from the NBA for the conference call.

The SmartGate is a biometric passport control system enabling people to move through the border faster. It is reducing frequency of inspections because of high levels of compliance by New Zealand and Australian passport holders while maintaining 98% levels of compliance.

The Government Industry Agreement (GIA) discussions are continuing and a "GIA 101" document is being prepared. The Council noted the discussion at industry conferences.

Plans to use streptomycin for Psa control in kiwifruit would proceed now that the kiwifruit industry has had consultation with bee industry and others. It was noted that communication could have been done better through what was an urgent situation. The BPSC had discussed potential for residues and impact on market access. It was waiting for the science to be done.

There had been a presentation on surveillance at conference. There had been no new exotic disease findings in the last year. The IAPV field sampling was complete and is now being processed by MAF.

The recent finding of *Nosema ceranae* in New Zealand has been validated and now confirmed to be widespread.

The MAF position on top bar hives was currently being considered by MAF Legal. Definition on these hives did not occur when the AFB NPMS strategy was consulted.

The Council discussed potential implications for market access, which was already under pressure from PMS weaknesses if the top bar hives issue was not resolved. There was also discussion on export certification related to compliance with the PMS and the need for flexibility around certification about AFB for markets such as Europe. The Council noted that the Animal Products Act was not designed for biosecurity management.

The BPSC agreed to bring the relevant people in when required with future agendas. →

There was discussion about a planned tutin promotion at the Cawthron Institute in Nelson. It was agreed that this was an area of risk communication—managing the issue and making sure that product is not contaminated. The biggest area of risk includes poorly informed new and hobbyist beekeepers.

A recent promoted tutin video did at least start to address the issue but could have been more factually correct and aimed at hobbyists. The BPSC discussed the production of a video with the correct messages for commercial and hobbyist beekeepers. This will need to be funded about $20–30,000 and the BPSC agreed to manage this project.

In discussion about the Food Bill, it was noted that beekeepers supplying local markets will be listed as National Programme Level 1 (the lowest). The Bill has been through Select Committee but will not pass through Parliament until 2012.

The next BPSC meeting is scheduled for 23 November 2011.

The first NZ honey bees

"Honey bees were first brought to the North Island in 1839 by Miss Mary Anna Bumby, from Thirsk in North Yorkshire, who arrived to become housekeeper to her missionary brother. She put two straw skeps of bees in the mission churchyard, out of the way of curious Maori."

(Source: Ellis, Hattie. (2005). *Sweetness and Light: The Mysterious History of the Honey Bee.* Professor Peter Molan recommends that beekeepers read this book.)

WEATHER

Dry conditions likely

The NIWA National Climate Centre's outlook for late spring and early summer, October to December 2011, indicates that seasonal rainfall is likely to be normal or below normal in all regions.

Soil moisture levels and river flows are likely to be below normal in all regions of the country, except for the west and south of the South Island where normal or below normal soil moisture levels are likely. The Centre notes that soils are already drier than normal for this time of year in north Canterbury, MacKenzie country and central Otago, as well as parts of the North Island.

Temperatures for October–December are likely to be average or above average in the North Island and northern South Island, and near average in the rest of the South Island. La Niña conditions are redeveloping in the tropical Pacific, and the event is expected to build through spring and continue over the summer season, according to the NIWA National Climate Centre.

The outlook states that mean sea level pressures during the October–December period as a whole are likely to be above normal across New Zealand, with weaker westerlies over the country.

Overall picture

Temperature: For the October–December period as a whole, air temperatures are likely to be average or above average in the North Island and in Nelson-Marlborough. For the remainder of the South Island, temperatures are likely to be near average. Sea surface temperatures near New Zealand are expected to be close to normal or slightly above normal through the period.

Rainfall, soil moisture, and river flows: The National Climate Centre says that late spring-early summer rainfall is likely to be normal or below normal for all regions of New Zealand. Soil moisture levels and river flows are likely to be below normal everywhere, except for the west and south of the South Island where normal or below normal soil moisture levels are likely. Soils are already drier than normal for this time of year in north Canterbury, MacKenzie country and central Otago, as well as parts of the North Island.

IN BRIEF

R&D grant for Hill Labs

New Zealand's largest privately owned independent testing laboratory, Hill Laboratories, has been awarded a $1.5 million research and development grant from the government, as part of the latest Technology Development Grant investment round from the Ministry of Science and Innovation. Some of the grant will be used to develop new tests in support of the honey industry.

(Source: Abridged from Hill Laboratories media release, 16 August 2011.)

National Beekeepers' Association of New Zealand
2012 Member and Journal Subscription Form

PO Box 10792, Wellington 6143, New Zealand

Telephone: +64-4 471 6254 Fax: +64-4 499 0876

pauline@nba.org.nz secretary@nba.org.nz www.nba.org.nz

Payment can be made by internet transfer. Bank of New Zealand Paraparaumu Branch Account No. 02 0733 0057338 00, SWIFT BKNZNZ22.

PLEASE PRINT CLEARLY

Date: _____ Contact Name: _____

Name on Membership card: _____

Postal address: _____

Postcode: _____ Phone No: _____

Email Address: _____ No of Hives: _____

☐ Existing Member ☐ New Member ☐ Life Member

Sub. encl: $ _____ or Internet banking date: _____ (**Please use surname as reference**) Receipt required: ☐

The membership year runs from 1 January – 31 December. There are 11 issues of The Beekeeper journal from February to December. A journal subscription is included in the membership fee.

Tax Invoice GST No. 14-437-525

Categories	Total hives	GST Incl.	Please Tick
Standard Hobbyist	1-10	$145.00	
Sideline Commercial	11-50	$180.00	
Small Commercial	51-250	$355.00	
Commercial Level 1	251-400	$570.00	
Commercial Level 2	401 - 800	$1045.00	
Commercial Level 3	801-1200	$1545.00	
Commercial Level 4	1201-1500	$1900.00	
Commercial Level 5	1501-3000	$3790.00	
Mega Commercial	3001 +	$4760.00	
Corporate Membership ***(Affiliate companies with no hive holdings)***		$300.00	
A) NZ Beekeeping Clubs 1-10 members - incl. 1 journal		A) $200.00	
B) NZ Beekeeping Clubs 11+ members Base rate plus $5 per club member – incl. 2 journals. ***Plse request separate order form***		B) $270.00 (Base rate)	
Beekeeper Journal Subscription Only			
New Zealand		$135.00	
Australia		$160.00	
Rest of World		$170.00	

Membership or Journal subscription	$
Donation	$
International T/T Fee ($25 for recovery of bank fees) **NOTE:** ***Please add for overseas transactions only***	$
TOTAL PAYABLE TO THE NBA	**$**

Donations **NO GST**	
General Research:	$
Varroa:	$
Total: $	

Please sign this form and post, fax or email it to the NBA. Your membership will be processed on receipt of a fully completed form and confirmation of receipt of payment.

Declaration: The information I have supplied in this form is true and correct.

Signed: ----------

Date: ----------

Office use
Payment date: **Chq no:**

Despatched:

The National Beekeepers' Association of New Zealand

2012 Membership Subscriptions

Subscription year runs from 1 January – 31 December 2012

This has been an extremely busy year for the whole industry. Special thanks to those members who have committed so much of their time and energy to Branch work and committees such as Pollination, Research and all those many members in the beekeeping clubs.

Membership continues to increase which is encouraging because without your financial support the organisation would not have the resources to confront and deal with the big issues facing the beekeeping industry today.

And we are facing some major issues such as Government Industry Agreements, Australian honey imports, unexplained bee losses, and Varroa resistance to synthetic pythrethroids

On a more positive note, the NBA is also working on a development strategy designed to further strengthen the Association, a detailed consultation to ensure all members understand the implications of GIA and initiatives designed to raise the profile and importance of beekeeping with politicians and officials.

Your membership is vital to the continuation of a strong and healthy industry, an industry that continues to grow and prosper.

On the reverse you will find the membership subscription form for 2012. You will note some changes and increases. NBA running costs have increased across the board but we have endeavoured to keep the increases to the barest minimum. This was agreed at the last AGM.

Beekeeping clubs
We have split the beekeeping clubs into two categories.

- For clubs (A) with up to 10 members the membership rate is now $200, this includes one copy of the journal and one vote.
- For clubs (B) with 11 plus members there will be a base rate of $270. For every club member over and above the first 11 members there will be a $5 per head fee. This membership category receives two votes and two journal subscriptions up to 61 members. Clubs with fully paid up memberships 62 and over will receive further journal subscriptions and additional votes. (A letter has been mailed out to all beekeeping clubs with full details)

Corporate membership
This membership category is for companies without hive holdings such as packers, equipment suppliers and training institutions. Companies with any level of hive holding fall into categories Sideline Commercial through to Mega Commercial.

Research funding
The industry is now facing some critical issues for the near future, namely Varroa resistance to synthetic pyrethroids. The Executive Council are urgently reviewing options to undertake research on this very important issue. Continuing research is obviously a critical area of industry development and success. Your donation will be of great assistance in supporting valuable research that will benefit everyone in the industry. We will keep all members up to date on progress with research options.

Your membership will be processed on receipt of a fully completed form and on confirmation of payment. All memberships must be supported by a signed form which you can mail, fax or email to us.

Daniel Paul & Pauline Downie
Joint Chief Executive Officers

Jessica Williams
Secretary

The National Beekeepers' Association of New Zealand
PO Box 10792, Wellington 6143, New Zealand
P: +64 4 471 6254 | F: + 64 4 499 0876 | www.nba.org.nz

Tutin contamination in honey

By Jim Sim, Principal Adviser (Animal Products), Ministry of Agriculture and Forestry

It seems that some of the old myths about tutin continue to circulate around the industry.

If the number of positive results found in honey from last season reported to MAF are anything to go by, there needs to be more attention paid to this problem.

Commercial beekeepers (i.e., anyone who sells honey) are required to comply with the Food (Tutin in Honey) Standard 2010, available on the MAF food safety website at www.foodsafety.govt.nz. This standard had a minor amendment made to it this year to clarify some of the wording. The Standard and its companion Compliance Guide are compulsory reading for all beekeepers selling honey sourced from the North Island and top part of the South Island.

When honey for sale or export is tested, beekeepers and packers are required to submit their results and supporting information to MAF. This will allow a better picture to be obtained of tutin distribution in honey and better define risk areas.

Nearly half the sample results received from beekeepers so far from testing of honey from this year's crop were positive for tutin at some level and some exceeded the limit of 2mg/kg; the highest levels reported being over 7mg/kg. Interestingly, one of the highest levels was in a relatively large batch of honey (six drums). So much for the theory that large batches are automatically protected through dilution!
Further analysis of the information is being done to locate more specifically where the positive results originate from. However, of equal interest is where all the consistently negative results are. These are particularly important if we are to be able to better define the risk areas.

Analysis of the results is being hampered by beekeepers not completing the forms properly. If you are in any doubt as to what is required, please contact Jane Oliver on 04 894 5680 or jane.oliver@maf.govt.nz. It also appears that a fair number of beekeepers haven't sent their testing results in yet. If you are feeling a bit guilty reading this, please send your test results in now!

Tutin and the hobbyist beekeeper

There has been a significant increase in the number of new hobby beekeepers over the past year and some may not be aware of the risks from tutin contamination.

> "Both comb honey and extracted honey can be poisonous."

Toxic honey is produced when bees collect honeydew from tutu (*Coriaria arborea*) bushes. Tutu is a widely distributed poisonous native plant species found throughout New Zealand, particularly along streams and in regenerating native bush. The toxin, called tutin, is in the sap of the tutu bush. This sap is eaten by the passion vine hopper (*Scolypopa sp*), but not all is digested. The undigested sap, which contains a lot of plant sugars as well as tutin, is excreted as honeydew onto the leaves of the bush. Bees then gather the honeydew and toxic honey is the result. Bees have been observed foraging on tutu leaves even when there is no visible honeydew present, so if passion vine hoppers are present it has to be assumed that honeydew is available for bees to collect.

Both comb honey and extracted honey can be poisonous. Comb honey poses a greater risk because it is eaten directly off the comb, increasing the chance of consuming honey with a high concentration of tutin.

Extracted honey is often bulked or blended with other honey, thereby reducing the concentration of toxin.

Toxic honey only needs significant numbers of tutu bushes and high numbers of passion vine hoppers (which typically occur from January onwards throughout the North Island and in the top part of the South Island) to be within range of your hives. Whether the honey is actually toxic will depend on what your bees are actually foraging on and when you take your honey off.

Managing tutin risk for the hobbyist

If you are not going to sell your honey, one or more of the following precautions should make sure your honey is safe to eat if your hives are in a risk area (i.e., the parts of the country passion vine hoppers are found in—the North Island and top of the South Island).

- Take all honey for eating off your beehives by the end of December.
- Don't collect comb honey after the end of December.
- Only take honey off hives after December if they are in areas where bees cannot forage on tutu. This will require a thorough check over a wide area to make sure there is no significant amount of tutu present. (This option is not guaranteed to produce tutin-free honey because bees may travel long distances to forage or go where you cannot check.)
- If you do collect honey from an area where tutu is present after the end of December, it is recommended that you extract it and get it tested. Mix it thoroughly to make sure that any tutin present is spread evenly through the batch. Then send a sample of the honey to be tested. (Details of testing laboratories are found on the NBA website at www.nba.org.nz)
- If you take your honey off at the same time of year, and your apiaries are always in the same places and you find no tutin when you test the honey, then it's reasonable to assume that it won't be an issue in your honey. Some beekeepers have found that they have tutin some years and not in other years, so don't rely on a single year's results.
- If any honey produced in the risk periods is to be stored and used for bee feed later in the season, frames of suspect honey must be carefully marked so they are not inadvertently extracted.

GIA: benefit or burden?

By Russell Berry, NBA Life Member

Arataki Honey Limited is very concerned about the way in which the GIA (Government Industry Agreement) is developing.

We are aware that the GIA has been discussed over several years. We are not opposed to the concept of greater co-operation and some degree of cost sharing between Government and industry to deal with unwanted organisms. However, we have now seen the detail of the proposed arrangements as set out in the "Government Industry Agreement on Biosecurity Readiness and Response – Draft for Consultation with Industry" as released by MAF on 15 June 2011. There is much in the detail that gives us real cause for concern.

It has been suggested that it is too late to influence the nature of the GIA. However, our assumption is that a document titled "Draft for Consultation with Industry" is open for comment and suggestions. We also note that on 3 June 2011, the Minister said that "the timeframe for the signing of the GIA Deed of Agreement still enables industry groups to engage on the finer details of the legal Deed." We see a real need to do exactly that.

We are finding that the NBA management is not seeing the potential problems in the draft agreement that we are seeing, nor is it engaging members in discussion on the details of the draft. We note in the last [*September*] issue of *The New Zealand BeeKeeper* that the NBA secretariat is putting together a briefing and consultation plan to be rolled out over the next nine to 10 months. However, the indicative GIA timeline circulated by the NBA secretariat on 15 July makes it clear that MAF is forging ahead to finalise the agreement by about October. In other words, by the time members are consulted, it will be too late to influence the details of the agreement.

We gather that the NBA consultation will be mainly about seeking members' opinions on whether or not the NBA should sign on to the GIA. Our concern is with the details of the agreement that is to be signed. It is now that there is an opportunity to have a say on this. In our view, the issue is not just WHETHER to sign, but WHAT to sign. For that reason, Arataki Honey has sought professional help and has made an urgent individual submission to MAF.

One of our major concerns is that the draft agreement as it stands, will cause the NBA to incur cost and time commitments which will have to be passed on to its members, regardless of whether an emergency occurs. And that may not be too far away, if Government allows the importation of bee products!

In the memo to beekeepers published in the September journal, assurances were given that cost sharing with industry only starts once an investigation is complete and industry have agreed to take part in a response. However, as we read the draft agreement and other MAF documentation, if the NBA signs on, it will be committed immediately to significant costs that are not to be shared. These include funding participation of representatives, funding baseline commitments, preparation of an industry biosecurity plan and obligations to co-operate with MAF-initiated investigations. After six years, the NBA will be required to contribute to MAF's secretariat costs. It is unclear to us whether a proportion of these participation costs, as distinct from readiness and response costs, can be recovered from beekeepers who are not members of the NBA.

The memo also stated that beekeepers will only share the costs of responses to pests and diseases of bees. This is not the way in which we read the draft agreement, which provides that, if industries that are affected by an organism cannot agree on cost sharing, all other signatory organisations will contribute to the response costs.

The draft agreement is very complex and prescriptive. It contains many other provisions which concern us and which we discuss in detail in our submission to MAF. The underlying issue is that in our view the draft seeks to set up a system that is not a true and equal partnership between MAF and industry. The draft contains many examples where we see a lack of balance and equity.

One specific concern is the issue of administrative costs. As we read the draft, MAF can appoint staff to its secretariat as it sees fit on terms and conditions that MAF will decide, but the industry groups will be required after six years to contribute 50% of the secretariat costs. In contrast, industry participation costs are not to be shared, yet it seems inevitable to us that the NBA would incur increased costs if it becomes part of the GIA.

Another example of a lack of a true partnership approach is the proposal to establish a Governance Group with MAF and industry membership. In principle, we applaud this as a means of bringing beekeeper expertise to the table. Unfortunately, the draft agreement reserves to MAF or pre-empts many decisions that would logically be made later by or on the advice of the expert governance group.

Arataki Honey believes that a better approach to implement the GIA would have been a much simpler Memorandum of Understanding between Government and industries, with the detail being left for later development by the joint expert group. However, the time to create that level of basic change unfortunately, has apparently gone, and we must work with what we have.

Finally, I reiterate that we do not oppose the concept of the GIA, but we do have serious concerns about the manner in which it is proposed to be implemented. The formal agreement will create the legal commitments that NBA will be saddled with if it signs on to the GIA. We believe that it is essential that the opportunity is taken now to do what we can to make the agreement acceptable before we have to make the decision as to whether the NBA should sign on, or not.

Research for NZ bees

By Kerry Gentleman, NBA Research Committee

This article summarises research initiatives under way by various agencies for the benefit of bees in New Zealand.

Plant and Food Research

- VSH queens have gone out on trial to six beekeepers. Assessment for VSH levels, production, temperament, etc. of these queens will be undertaken during this next season. Negotiations are under way with bee breeders regarding the management of the rest of the VSH population.
- Investigation into ways to make organic varroa controls more effective in New Zealand.
- Pollination manual. This will be written in plain language that will clearly lay out the relationship between bees and their crops, and how growers can best manage that relationship to ensure good crop outcomes and maintain healthy bee populations.

Landcare Research

"Flowers for healthy bees in times of pollen dearth"

This is an SFF project running from 2010–2013 with the involvement of both NBA and BIG Federated Farmers.

The objectives are to:

- extend the plant database
- put together local community plant shortlists
- get pollen profiles of shortlisted plants
- conduct tests of high protein plants
- conduct public workshops, attend field days and conferences to distribute information gained from research.

Key outcomes:

- farmers will have more reliable pollination services
- bee health, population sizes, and disease/pest resistance will improve
- beekeeping and farming will be more profitable and sustainable and can claim environmental benefits for Farm Quality Assurance Schemes with native plantings for bees.

Institute of Environmental Science and Research

Looking at microbiological loadings of honeybees.

Institute for Innovation in Biotechnology

Interested in the dihydroxyacetone and methyglyoxal concentrations in stored manuka honeys.

Manuka Research Partnership (NZ) Limited

The aim of the MRP is to develop knowledge to produce manuka plantations capable of greater yields of honey suitable for medicinal products.

Lincoln University

Bee behaviour, foraging ecology, bees in the agricultural landscape.

University of Otago

Queen retinue pheromone: royal manipulation of worker bee brain and behaviour, the genetics of polyphenisms in bees.

GNS Science

Adulteration of honey with sugar. Authentication – identification of honeys of foreign origin.

Scion (NZ Forest Research Institute Ltd)

Scion have shown interest in collaborating with Trees for Bees with regard to including good pollen-producing plants (for bees) in the functional forests for the future.

Oritain

Scientific proof of country (and even region) of origin of food through chemical and isotopic signatures. Database is being developed from honey samples.

Catalyst R & D

Investigation into plant alkaloids.

Waikato Honey Research Unit

Nutritional and medical benefits of honey.

Consultants

Barry Donovan: An independent entomologist, with interest in bees of all kinds, pollination and wasps. For honey bees, his present interest is in the possibility of using chelifers (i.e., pseudoscorpions) to control varroa.

John McLean: entomologist—applications of honey bee pheromones, hive nutrition and health.

NBA involvement

The NBA is currently helping out with funding for the VSH queens project.

Would you like to donate?

If you would like to donate money to help with continuing research for the VSH queens project or any future projects the NBA supports, the General Research account number is:

BNZ
Paraparaumu Branch
02 0733 0057338 001

Direction sought on future bee research

By Jane Lorimer, NBA Research Committee chair
Kerry Gentleman, Executive Council research liaison

The NBA Research Committee would like some direction from the NBA branches as to your wishes for future research topics.

We wish to prioritise research according to industry wishes and put in place a long-term research plan.

Research topics under consideration

Plant and Food Research bee scientists have been involved with varroa-related research for the past 10 years. Michelle Taylor advises that Plant and Food Research could work on these possible topics:

1. iRNA (5–10 years): Use RNA interference to silence a single gene within varroa that may result in diminished reproductive performance.
2. Varroa Sensitive Hygiene (VSH) breeding programme (at least 2 years, then reassess appropriateness for assessments): Conduct yearly VSH assessments to maintain the purity of the VSH line that has been established over the past 7 years, while maintaining a viable gene pool.
3. inhibitors of chemical resistance (3–6 years): Identify chemicals that will inhibit the development of resistance to chemical controls in varroa and therefore prolong the effective use of the current chemicals.
4. additional varroa control products (3–6 years)
5. resistance (one-offs): Bioassay to identify resistance in subpopulations throughout New Zealand. Bayer (Bayvarol) and Vita (Apistan) are interested in supporting this research.
6. Nosema ceranae (3–6 years): Develop a control product for Nosema.
7. AFB NPMS (Single trial): Determine whether PCR, which is a cheaper alternative to plating AFB, can be used to assess numerous samples for AFB.
8. healthy bees: Identify a food supplement that will increase the health of New Zealand bees.

The research committee unanimously agree that varroa research (and associated pathogens) is still our main priority given the limited funding available.

Some of the other issues about bee health are likely to be answered by Dr Linda Newstrom-Lloyd's work with Landcare Research.

Lincoln University made a presentation to the NBA Executive Council in February 2011. Some possible topics that they could explore are:

- bee responses to pathogens and disease
- volatiles produced by bees that trigger hygienic behaviour
- microbial pathogens of bees
- microbial control of varroa.

Other issues to explore

Neonicotinoids, modern clover cultivars, others?

Action needed by branches

1. Please vote within your branch for your 1st, 2nd and 3rd choices of research topics.
2. Please report your decisions back to us by 30 November 2011.
3. Please suggest any other ideas for research, and indicate a priority level for each.

On behalf of the NBA Research Committee, we would like to thank you for taking the time to consider this at your branch meeting and look forward to receiving the positive feedback.

Contact details:

Jane Lorimer:
hunnybee_wave@ihug.co.nz
Kerry Gentleman:
frazer.kerry@clear.net.nz

IN BRIEF

Gorse victory for BOP farmers

Gwyn Morgan, Hamilton-based regional policy advisor for Federated Farmers, reports that the Bay of Plenty Regional Council (BOPRC) has adopted the Board of Inquiry's recommendation to delete the policy and rules proposed to eradicate gorse from the Rotorua and Okareka catchments.

Gorse is now a containment pest that farmers have to control within 10 metres of a boundary. This information is contained in the BOPRC Pest Management Strategy 2011–2016.

(Source: email from John Hartnell, Chairman, Bee Industry Group, Federated Farmers of New Zealand, 30 Sep 2011.)

CCD symptoms observations

By Barry J. Donovan, Donovan Scientific Insect Research, Canterbury Agriculture and Science Centre, Lincoln, Private Bag 4704, Christchurch 8140 and Ron van Toor, hobbyist beekeeper, Canterbury

Symptoms indicative of Colony Collapse Disorder (CCD) were observed in six of 12 hives in one apiary at Lincoln in Canterbury during spring 2010.

Before then, during winter 2009, the 12 hives were in a row along the north side of a hedge running east–west on the research station of Plant and Food Research Ltd. Apistan (tau-fluvalinate) was used as on the label for eight weeks from 25 August 2009 to control varroa, and by late spring the hives were moved to flowering white clover seed crops.

During February 2010, a mean of 27.7 kg of honey was harvested per colony and the hives were then returned to their original sites along the hedge. Apistan was again used for eight weeks from late February 2010, and in bright sunshine on 4 June all hives showed good activity for winter days. On 1 July the hives were weighty when hefted at the back, which indicated that sufficient honey was in storage for the foreseeable future.

On 24 August 2010 we opened all hives to insert Apistan strips, and found:

1. the hive at the western end of the row of 12 had several frames of brood covered with bees, and ample stores of honey and pollen
2. the next two hives had no bees, alive or dead, some dead, capped brood, and ample stores of honey and pollen
3. the next two hives had just a handful of live bees, a queen, and a small area of brood about 15 centimetres across, and ample stores of honey and pollen
4. the remaining seven hives were similar to the first; i.e., all were thriving and had ample stores of food.

On 24 September 2010 at 1.30 pm in warm clear weather the hive at the western end of the row, and the last six at the eastern end were all busy with bees in and out, but the remaining four hives that had live bees on 24 August had no activity. Two days later internal inspection showed that all four hives had no live bees and only a few dead bees. Just as with the two colonies that were dead four weeks earlier, these four hives had small areas of dead, capped brood and ample stores of honey: all six dead hives showed no signs of having been robbed.

Symptoms of Colony Collapse Disorder are somewhat disputed, but there seems to be general agreement (Ellis, 2010) that:

1. colonies often suddenly reduce to just a handful of bees insufficient to cover the brood which is capped, and a queen
2. honey and pollen stores are ample
3. after death of the remaining bees there are virtually no dead bees in or just outside the hives
4. there is no robbing for at least several weeks.

These are exactly the symptoms we saw in six of the 12 hives at Lincoln. Also, some beekeepers in the United States have reported that symptoms of CCD appear to spread from affected hives to adjacent hives. In our apiary there appeared to be a progression of the symptoms eastwards along the row from the two colonies that were found dead on 24 August 2010 to the next two that were weak, and to the following two that appeared normal but along with the two weak colonies were dead by late September. One other observation is that the caps of the sealed honey combs appeared to be somewhat greasy.

From 13–20 October 2010, all six dead hives with their dead brood and stored food were re-stocked with swarms. All six swarms established well and thrived, and in the following honey season the 12 hives produced a mean 5.6 kilograms of surplus honey.

All 12 hives were inspected internally on 28 August 2011, and again all were normal with several frames of brood each and adequate stores of pollen and nectar. None showed signs of CCD-type symptoms. All were given Bayvarol (flumethrin) at the recommended rate.

As at 2 September 2011, bees were numerous and busy at the entrances to all 12 hives, with many returning with pollen.

Discussion

Although there is no general overall agreement as to the symptoms of CCD in the United States of America (indeed, some commentators even believe that there is no such condition), the symptoms we observed appear to be typical of those described by many beekeepers. We (the authors) have a combined 91 years of beekeeping, primarily hobbyist but also some years of involvement in full-scale commercial beekeeping, three years at a bee research establishment at the University of California, Davis campus, in the late 1960s, and three years apicultural research in New Zealand, and never before have we seen similar symptoms. We are very familiar with insecticide poisoning of bees, and the symptoms we observed were not those of any chemicals we know of.

Four other hives 170 metres south of the 12 hives, and four more hives about two kilometres east were normal throughout the period mentioned above.

So does our observation of CCD-like symptoms mean that CCD is present in New Zealand? Because there is no agreement as to the cause of CCD (and even if it exists), the best we can say is that CCD-like symptoms have been observed and were associated with a 50% death rate of 12 hives. But even if CCD did occur, whatever caused it seems to have disappeared within several weeks because the six swarms which were placed in the affected hives all thrived, and nearly a year later have continued to do so.

Reference

Ellis, J. (2010). Colony Collapse Disorder in Honey Bees. *University of Florida IFAS Extension ENY-150*: 1–5.

Reply from Frank Lindsay:

To me what you were observing was the result of varroa mite re-invasion. Most probably your bees had been out robbing a dying feral hive.

This could have been confirmed if you saw some of these signs: the brood was spotty/patchy; there was more brood than was covered by bees; there would been the odd cell of chalkbrood or sacbrood; and there would have been varroa under most of the capped brood (signs of PMS).

On a good flying day you might have observed the odd bee on the ground crawling away from the hive. These usually look complete but have been fed on by varroa and can't fly. Also when in this condition, the remaining bees abscond to get away and start again. You usually hear of small swarms very early or very late in the season.

Hives can suddenly collapse in three weeks with high mite numbers. The bees look OK when you don't have any viruses in the hive. You will see evidence of this in a few years' time: deformed wings etc.

These conditions are what a lot of beekeepers have observed during the first three acute years of the mite invasion, where it's necessary to check mite fall mid-winter in the warmer coastal areas where bees are flying. Not all bees rob an unattended hive and something you will observe again in the future when hives go queenless in winter: no bees in the hive, no brood, lots of pollen indicating an old queen and honey stores remaining.

Welcome to the world of varroa.

When deciding on a beekeeping practice, assess how many hives could become infected if things go wrong. *(Source:* Elimination of American Foulbrood Disease without the use of Drugs: A practical manual for beekeepers (revised edition), *by Mark Goodwin, page 70.)*

Hive tips and tricks

By Frank Lindsay, NBA Life Member

Swarming tip

If you are working an apiary and a swarm starts to issue from a hive when there is a crowd of bees flying in the air, block the entrance to the hive to stop any more from getting out. The queen is usually one of the last bees to leave the hive, so the circling bees will soon realise they are queenless and will return to the hive or hang on a nearby hive.

Take a couple of frames of mainly emerging brood from another hive (minus the bees) and allow the swarm bees to settle to them. Put these in a nuc box along with two frames of pollen and honey.

After half an hour, unblock the entrance and release the bees. They will just act normally. The bees will have lost the impulse to swarm now that the congestion within the hive has been relieved. Go through the hive and carefully remove the queen cells, taking one to put in the nuc. If the queen was a poor layer, consider splitting the hive into two or three nucs using the queen cells. Don't worry if you do not find the queen as she will generally be superseded by the queen in the cell you introduced.

What can go wrong in a nuc

A couple of years ago I made up a number of nuc hives to start new beekeepers off (queen cages inserted with the tab removed) and had heard of the number that had failed—a big disappointment to those new beekeepers. Some had failed to provide sufficient feed or to see that the bees found the feeder, while other nucs gradually died out after the queen was released.

Last year, instead of handing the nucs over to the new beekeepers, I installed them into their gear and maintained them for another two to three weeks. I placed the queen cages into the nucs after they had been queenless for a day, but didn't remove the queen cage tab. Three days later I checked the nucs for queen cells: approximately a third had produced emergency queen cells even though they had a caged queen present. At the time the queen cages were introduced I had scraped clean any developing queen cells (cells with lots of royal jelly in the bottom). These new queen cells were rubbed out and the queens released from the cages. I observed each for a couple of minutes to see whether the bees balled them and all but a few were accepted straightaway; i.e., the queen just bulldozed her way through the bees on the frame without them taking any notice and when she stopped, they began grooming her. Those queens that were starting to be balled were returned to the cage and the tab removed so they had a slow introduction.

Releasing the queen straight on to a frame can have its dangers. If the queen is unsettled she will immediately fly, or in the case stated above, she could be balled. If she flies, you have to keep an eye on here and catch her again when she lands—usually within a metre of the hive. If you didn't see where she went, leave the hive open for 20 minutes and sometimes she will return to the hive of her own accord. Most new beekeepers should stick to the tried and true method of just removing the queen cage tab and allowing the bees to release the queen themselves. After releasing the tab, leave the queen to settle down for 10 days before having a quick look. All you need to see is eggs in the cells to be confident that all is well. It's important to keep feeding the nucs with a couple of litres of syrup every other day until they have several frames drawn out.

Nuc hive maintenance

Sometimes when you put a nuc hive into a super, the bees fail to expand on to the new frames even though you continue to feed the nuc. Quite a number of bees form a cluster on the outside of the supers above the entrance: this is a sign that they are going to swarm.

Split the brood frames by adding a foundation frame or a newly drawn frame so the queen has somewhere to lay. This will also cause the bees on the outside to return inside to maintain the nest temperature. Check again after a week and if there are sufficient bees to cover another frame, add another one to the centre of the brood nest to keep the brood nest expanding.

Bee in the bonnet

By Mark Peters, *Gisborne Herald*

This is the story of Barry Foster, the bee-keeper.

But first, some preamble. Barry's father John was a passionate amateur bee-keeper, and builder. John built the family home Barry now lives in. He also carved the magnificent triptych on the front door.

Oak leaves, acorns and daffodils feature in the top panel. A morepork perches next to the door-knob among vine leaves and clusters of grapes in the second.

The third panel is a coup de grace, a signature, if you will. A whirl of kowhai and other natives surround a tawari blossom. A bee sips from the heart of the flower.

Tawari honey was the liquid gold John Foster gathered from his hives high in the hills of Matawai.

John loved his tawari. He stirred it into his tea. Barry's mum baked it into cookies. John sat in the sun-porch out back at smoko and dunked the tawari-flavoured cookies into his tawari-sweetened cuppa.

In the 1970s, few people had even heard of tawari. Honey choices back then were limited to pale clover blends. Even now, tawari is mostly only found on the East Coast. So for some, the harvest has assumed the gold-tinged patina of a pilgrimage. Why? Only because tawari is the most perfumed, luminous, sensual honey in the world.

This is why the hives are jealously guarded by angry, golden bees.

John's old mate Stan Vincent joined Barry's dad on these expeditions. Sometimes they took their sons with them. One time, they took a work-scheme "drone".

"I got a bee in my bee-keeper's bonnet," recalls *Gisborne Herald* reporter Mark Peters of the incident 30 years ago.

"When I tore it off, 14 bees got into my suit. John and Stan thought that was pretty funny. I don't like to talk about it much," says Mark.

Stan Vincent's son Grant remembers heading into the hills with his dad, John and young Barry.

"I used to look forward to going out into the back-blocks.

"Barry and John loved it out there … boys out in the bush, I guess."

Bee-keeping though was not Barry's original career choice. He worked at the BNZ for eight years then went on his OE. On his return to New Zealand, he worked in horticulture for four years before taking up bee-keeping fulltime.

Not only has he continued the tradition, he has taken it to another level. He has a passion for bee-keeping and for what it means to the economy.

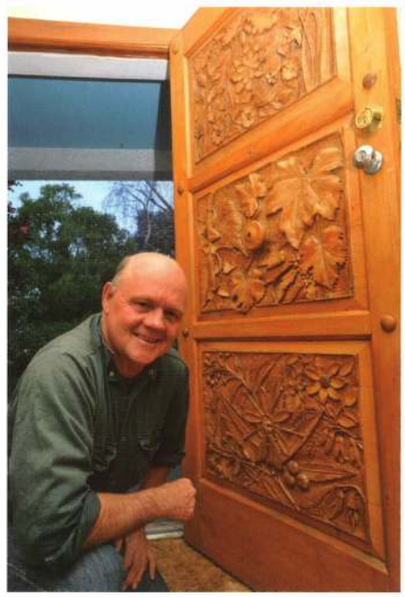
"Conservatively speaking, we are a $5.1 billion-a-year industry. Well over a $100 million of that is in exports of bee products.

"One third of our diet is dependent on pollination and bees. We really need a thorough economic analysis of the industry to take into account the potential economic loss to New Zealand should we suffer colony losses similar to the Northern Hemisphere.

"Pollination security is becoming a big issue around the world and is just beginning to be noticed by our government."

One of the biggest issues the industry faces, Barry believes, is the importation of Australian honey. It hasn't happened yet, but it is on the table, so to speak. New Zealand's bee-keepers are understandably twitchy about the possibility of pathogens smuggling themselves in with Australian-labelled products.

To be fair, Australia is just as anxious about the possibility of the varroa mite—a bug



King bee: Recently crowned as president of the National Beekeepers' Association, Barry Foster admires the magnificent relief carved by his father John. In the bottom panel, a bee sips at the heart of a tawari flower. Picture by Rebecca Grunwell.

which feeds on bee larvae and adults—making it across the Tasman from New Zealand. The question of transtasman biosecurity is understandably fraught with anxiety.

"FAQs related to Australian honey imports temporarily suspended", says a notice on Biosecurity New Zealand's website.

Innovative thinking is the way forward, Barry believes.

"Manuka has been the flagship honey in New Zealand. But it's doing other stuff with manuka that adds value."

Medical-grade manuka honey alone has the potential to escalate from an estimated $75 million to a billion dollar industry.

Other high-end niche products are just waiting to be developed, marketed and exported.

The bee venom mask used by Kate Middleton before her wedding to Prince

William was a real marketing coup, says Barry. "These are the sort of ideas we need."

Barry's company is involved with production and export of Alchemy Beverage elixirs. Alchemy Beverage's honey mead took silver at an international competition in 2005.

First Knight Ambrosia Honey Liqueur is a brandy-based aphrodisiac that sparkles with 23 carat gold flakes.

"Fuels love's flame" reads the tag-line. "It's a honeymoon drink," Barry explains.

"We launched it ourselves during the recession but it's selling well—and it's picking up."

Another way to add value to product, says Barry, is to trademark our honey as authentic—particularly since "honey laundering" has become a global issue.

"Imports of honey raise the potential of bringing in blends of indeterminate origin as is happening in Australia," says Barry. "Chinese honey, or honey from other origins, is being passed off as Australian."

The risk, as Wellington Beekeepers Association spokesman John Burnet recently told Business Day, is that "countries like Argentina and China … have very low disease-control standards."

Barry, however, sees an upside.

"China is the biggest honey exporter in the world. But we export our honey to China because they know where it comes from. They know it can be traced.

"We are moving more toward scientific testing of our honey as a way of adding value."

It is this sort of vision that recently saw Barry crowned as president of the National Beekeepers Association.

Between work and his new role, though, he doesn't have much time for getting up into the backblocks of Matawai these days. But in many ways the backblocks are always with him.

He has kept the name his father gave to the original enterprise.

The sign at the front of his factory reads "Tawari Apiaries".

Source

Peters, M. (2011, July 16). Bee in the bonnet. *Gisborne Herald*, Weekender, p. 3. This article is reprinted with the kind permission of the *Gisborne Herald*.

NBA Conference 2011

Photos by Frank & Mary-Ann Lindsay

From left to right

Top row: Gilles Ratia and Kim Kneijber; Mr. and Mrs. Ian Browning

2nd row: Randy and Stephanie Oliver; Ian Berry, Linda Bray & Pat Berry; Jess Williams and John McLean; Peter and Susan Lyttle

3rd row: David Woodward and Allan Richards; Best Queen and Most Disreputable Drone award winners; Rae Butler; Steve Lyttle and Carolyn Ball

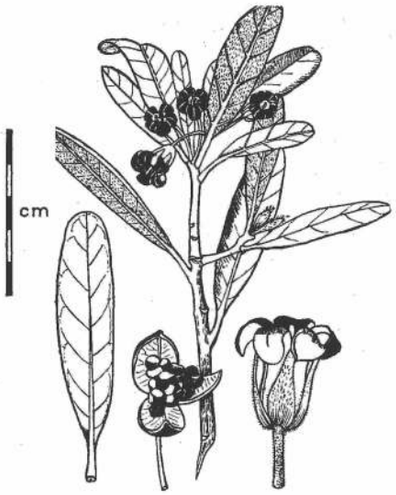
Bottom row: Rob Murray and partner; Bill Winner and Neil Stuckey; Blanche Murray and Bobby Leef; Cathleen and Blake Shook

Pittosporum crassifolium—Coastal Pittosporum

By Tony Lorimer, NBA Life Member

The Coastal Pittosporum (Maori name: Karo) is found in abundance on the East Coast of the North Island, especially in the East Coast Bays.

It is a small tree up to 10 metres in height with black bark and twigs. The leaves are thick and tough and much waved—the thick epidermis and cuticle protect the tree from excessive transpiration as is the case with other coastal trees (i.e., Pohutukawa).



Pittosporum crassifolium

The flowers, which are produced from September to December, are deep purple and are one centimetre long. Karo is one of New Zealand's most scented plants.

This tree is now grown as a hedge plant.

The Maori used to extract a fragrant scent from the gum and leaves of the Karo. A greenish-yellow oil from the seed pods was applied to the head to restore lost hair.

BUSINESS

Sticky business

By Frank Lindsay, NBA Life Member

Cleaning propolis off concrete extracting room floors is a pain.

We paint our honey room floor each year as the cheaper types of concrete paint don't take the wear. Also, I didn't chemically clean my floor initially before painting so the odd area lifts. Still it looks good when completed and is easy to keep clean, apart from the propolis.

In order to clean propolis off the floor, I had to use a putty knife on the end of a broom handle, but this only worked on the section of concrete floor that had been mechanically trowelled. In a later section (hand trowled), I had to use a hive tool and followed this with a chemical clean down of the floor with Handy Andy. Another product that works equally as well in dissolving propolis is GP Forward Cleaner. (Both of these products are C3 so cannot be used when there is honey in the room).

I have tried using a hot air gun but this only spreads it. It comes off best when cold.

The handwashing buckets, when left on the floor, also pick up propolis so I sit them in a solution of GP Forward Cleaner overnight to clean it off. Another method that's quicker than soaking is to heat up the bottom of the stainless steel buckets with a hot air gun to melt it and rub it off with a paper towel.

After such an effort to clean the floor, we went out and purchased rubber matting to be placed around the work areas. The propolis and wax particles collect on these during the day and are water blasted off at the end of the day's extraction. Those bits that fall through the holes in the matting are easily mopped up, as they haven't been trodden into the floor.

An alternative is to use coreflute. It's six millimetres thick (the type used on large real estate signs) and works equally as well, although it doesn't give you the same comfort as a rubber mat. The mats have reduced the floor cleaning considerably. All that is necessary after the mats have been removed is a quick wash and squigee off.

If anyone else has a solution on to this, I think a lot of beekeepers would be happy to hear from you.

FROM THE COLONIES

Auckland Branch

As I write this article, there is a vicious cold wind buffeting the house. I pity the poor bees!

The Southern Oscillation is in 'neutral'—neither strongly El Niño nor strong La Niña, although La Niña may make her presence felt from time to time, according to MetService.

The outlook for the next couple of months indicates that our region may have more than average sunshine and therefore be drier than normal with higher than normal temperatures, and have normal or less than normal rainfall and wind.

Graham Cammell has stepped into Ian Browning's shoes as our President, and he and the team are planning an interesting programme for the year ahead.

Trevor Cullen of Ceracell Beekeeping Supplies has for many years very generously provided us with a venue for our meetings. Due to expansion of Ceracell's office facilities this must come to an end, so we will soon be meeting at a different venue.

Recently, a discussion group for commercial beekeepers was held to further discuss items of interest from Conference. This was well attended, and voted a very useful event.

- Helen Sinnock

Waikato Branch

The beekeeping year is getting into full swing and we have now hopefully seen the last of the fusty weather. The willows are in full bloom. We are currently seeing a reasonable amount of drones in the hives and some beekeepers are reporting the odd swarm cell. Generally the hives have come through the winter well but there are patches of variance.

The beekeepers I have spoken to have reported low levels of varroa but I am sure varroa levels will increase as the brood rearing moves up a gear. In the past month the Waikato has held a diseaseathon and follow-up day, both of which were well attended and achieved desired results.

The most pressing topic of discussion is spraying of antibiotics on the kiwifruit and what effect this will have on the hives.

Many beekeepers are concerned about the uncertainty with kiwifruit pollination and the effects it will have on the kiwifruit industry. Some beekeepers are so concerned about the potential problems created by the antibiotics that they are either reducing hive numbers or decided not to supply hives to kiwifruit pollination this year. The requests from Waikato kiwifruit growers that hives that have been placed in orchards in Psa areas be kept well clear of their orchards is also placing further stress on the beekeepers.

I was speaking to a Waikato kiwifruit orchard owner and the level of his concerns were that he would no longer take farm product deliveries that had come from the Tauranga area for fear of spreading Psa to his orchard.

The GIA issue is now starting to come to the forefront of beekeeper discussion. Beekeepers need to understand and engage with the NBA about this process so we can make an informed decision on what to do.

- Stephen Black, NBA Vice President and Waikato Ward representative

Bay of Plenty Branch

AFB NPMS: hive audits

AFB surveillance has been conducted over the last few weeks. Barbara and Allan Pimm and a team of willing helpers have been performing hive audits in the Whakatane area with some AFB found: continued vigilance is, as always, necessary. Dennis Crowley has been auditing the Te Puke area, the Mossops are auditing out Matata way and Jody Mitchell organised a team on Father's Day to audit in the Katikati/lower Coromandel area. At the time of writing Jody's team is doing surveillance in Tauranga. In the Western Bay, no AFB disease was found during inspections so far, but quite a variance in colony strength ranging from good strong hives to some with only a couple of frames of bees; some with quite a lot of PMS.

Ralph and Jody Mitchell with Leon and Aurel pitching in with AFB hive audits. Photo: Jody Mitchell.

Spring hive conditions

Jody Mitchell reports that their hives have come through winter well with good stores and no sign of mites so far. In the Eastern Bay varroa abounds. According to Barbara Pimm there does not appear to be full resistance; however, she suspects there may be a level of resistance, if that's possible? All tests show hives not to be resistant, but there seems to be high levels of varroa. Maybe it's just our warm climate. Certainly it has been warmer the last two winters so brood has continued to develop throughout the winter.

The rain seems to have stopped and the sun appeared so the bees are recovering nicely. I have found my hives to have wintered over well and are building in strength well. Dennis Crowley has heard of a few hive losses due to varroa, being unsure if it is from resistance or last year's swarms re-invading. Also on the negative side, some beehives have been stolen around the place.

Kiwifruit Psa disease and bee pollination

Kiwifruit Vine Health Psa Statistics Update on 14 September 2011:

- a total of 353 orchards have been confirmed with Psa in regions throughout New Zealand
- the majority of orchards identified with Psa are in the greater Te Puke region (311 or 88%)
- Psa-affected orchards have also been identified in other regions
- 262 orchards have been confirmed with Psa-V. All but three are in the Te Puke region. One Psa-V orchard is in the Waihi Priority Zone and two are in the Tauranga Priority Zone.

Ian McLean, Tauranga Green Party candidate and biologist has stated, "Psa is our earthquake and may be just as devastating, economically at least. It's just that the broken buildings are not so obvious". This is a stressful time for kiwifruit orchardists: with Green kiwifruit bud bust about to occur, the full extent of the disease spread is only just becoming known. No question, this is having and will have a profound impact on the kiwifruit industry. Given that

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kiwifruit pollination services involve so many beekeepers and hives, Psa, in my opinion, may well have a greater financial impact on the beekeeping industry than varroa mite has had to date. It has the potential to be a game changer. Orchard hygiene controls, the use of KeyStrepto™ antibiotic sprays, concerns about vehicle and hive movements, along with some beekeepers restricting their pollination services or withdrawing their services completely, have all contributed to a challenging few weeks for orchard managers and beekeepers alike. Road meetings around the region have provided an opportunity for local growers, contractors and beekeepers to be better informed, communicate intentions and provide support.

This is a time to support the kiwifruit industry. The crop payment forecast is down on last year, their future is uncertain with many orchardists just hoping to get through and produce a crop this year, the opinion of using artificial pollination is limited, so bees are critical to their ongoing success. Our challenge is to provide a cost-effective service while maintaining healthy and hopefully antibiotic free hives.

Beekeeping course highly recommended

"I am one of the new beekeepers coming from Gerrit Hyink's classes at the Katikati Resource Centre. I think he is doing a marvellous job there is a great thirst for knowledge in the general community". (Barry Kneebone)

- Greg Wagstaff

Poverty Bay Branch

Spring finally arrived in Poverty Bay and the willows broke out in flower in early September. Hopefully if the weather holds there will not be much need for sugar feeding for a while.

Hive build-up has been slower due to the limited foraging conditions. Double hives have fared better than singles and have needed much less feeding.

Early flowering plum varieties are up to two weeks later in flowering than in the last few years. A cold southerly for a week in August put things on hold.

Varroa levels are higher than previous years, possibly due to the smaller brood nest area, and a few bees with deformed wing virus (DWV) are being observed. There have been no reports of AFB this spring so far.

- Paul Badger, Branch President

Hawke's Bay Branch

As I write this a major foulbrood outbreak is unfolding in the Bay: 30 hives and counting. We have had a good response from both AsureQuality Limited and Rex Baynes at the AFB NPMS Management Agency, and I would like to thank them for their quick response. It will be interesting to see whether MAF prosecutes anyone over this outbreak. I would have thought that an unregistered site with robbed-out foulbrood hives in it was about as bad as you could get, so hopefully we will see a prosecution under section 154q of the Biosecurity Act.

Varroa is far more prevalent than normal this spring. Follow-up testing will need to be done but it appears that in some cases the autumn treatments did not work as well as usual.

- John Berry, Branch President

Otago Branch

Otago bees and beekeepers are emerging from a relatively mild winter, which has had just a couple of cold blasts. The good snowfalls have been handy for soil moisture and at the moment it's about right for some early growth and to get into yards. It's cold and raining now but by the time you read this the spring will be well and truly under way.

On a sad note, many Otago beekeepers attended the funeral of Norman Harris who died on 14 August after a brief illness. Norman was a well-known North Otago beekeeper and an active member of the Southern Beekeepers Discussion Group. We will all miss him and his cheerful participation at our meetings.

The Branch held a field day this September in Lawrence and invitations went out to the 430 registered beekeepers south of the Waitaki River. I will give you a report next month on the varied programme focusing on bee health.

Varroa is still undetected in the greater Dunedin area and further south but none of us expect this to last too much longer. Meanwhile, in Central Otago beekeepers now entering their second season with the pest report quite bad re-invasion problems.

An above average honey crop for a change with good prices might fix everything! As usual, here's hoping.

Peter Sales, Branch Secretary

News from the Chatham Islands

On 25 August, Mana and I went to Kaingaroa School for our weekly bee class. The students learn how to wax up enough plastic frames for two boxes. We have found that the bees prefer a little wax on the plastic frames to get them started. A few weeks earlier the students made up some wooden frames and put these into the hives. The students have noticed that the bees really like the natural sheet wax and have already started to build them out. The students put their name on top of the wooden frames and now there is a fierce competition going on—whose frame is waxed up the most?

We transferred those wooden frames up into the second box along with the waxed plastic frames. But before we did that we checked to see what the queen was up to. And yes, we had a queen in each box, along with eggs, grubs and capped brood. Cheers all round. So on with the second box along with some sugar, candy and syrup. That should speed things up, one of the students observed.

We do not have any native plants flowering yet for nectar. But there is plenty of gorse in full bloom and the students have noticed lots of pollen coming into the hives. A good sign, I say. And the weather is warming up, just a degree at a time. The night-time temperatures are now into double figures and the daytime temperatures are heading from 15 to 18 degrees on a regular basis. Queen rearing will begin in the next few weeks.

The Chatham Island Bee Club is working hard to prepare policy regarding border control. The movement of bees and products onto the islands is a very big issue for us as we are still varroa and AFB free. To keep it like this and yet retain viable bee genetics is creating lots of discussion. We welcome your views.

Cheers Mana & Michele

Be ready for the new season

By Frank Lindsay, NBA Life Member

The weather during most of September has been cold in our district, with the odd belt of snow and hailstorms.

It's been too cold to work bees most days so I have spent most of my time making up new gear. You can see the results of this bad weather in the hives that are not close to early pollen sources. The centres of the middle brood frames have spotty brood, whereas the next circle outwards has beautiful brood with hardly a missed cell. The spotty brood is an indication early on that the bees were using their own body fats to raise that generation of bees. There is also hardly any stored pollen around the outside of the brood so the bees have been living hand to mouth. I have added a frame of stored pollen to these hives to boost them a bit.

Those hives that are close to the bush or are in the city have been bringing in a dribble of nectar and pollen, which has stimulated brood rearing and in most cases they have brought in enough nectar to store a little in the outside frames. Those that wintered well have increased to two supers of bees. It's important to give them more room by adding another super with mostly drawn frames immediately above the brood nest for the bees to expand up into.

If you haven't got drawn frames (only foundation or undrawn plastic frames), lift up a couple of outside frames and place them in the middle of the new super with a foundation frame between and on the outside of these. Reshuffle the frames in the second super so that the spaces left are replaced by foundation frames in the positions second in from each side.

Minimising swarms

It doesn't take much for a strong hive to get into swarming mode (building queen cell buds along the bottom and top bars) when there's a sudden burst of nectar and pollen coming in from the crack willow, cabbage tree, hawthorn or barberry: the first of the spring flow, especially if there aren't any drawn frames for the bees to store the nectar in.

> "It doesn't take much for a strong hive to get into swarming mode."

I prefer to make a four-frame nucleus colony from my very strong hives by taking two frames of honey and pollen, two frames partly filled with brood on the point of emerging and an extra shake or two of young nurse bees off other brood frames (checking beforehand that the queen is not on those frames). Reshuffle the frames so that the brood remains in the centre of the super. This relieves the congestion in the strong hives by immediately reducing their population and gives me spare bees to boost weaker hives or to use to make up queen mating nucs. Generally it's best to move these nucs to another apiary to stop any field bees in the nuc going back to the original hive. If you haven't that choice, plug the nuc hive entrance with grass and place in the shade.

In the evening, place a queen cell in the nuc hive and position the nuc on a permanent site in your apiary. It's OK to leave the nuc hive closed in this way for a couple of days provided the bees have adequate ventilation—screened bottom section or ventilation hole in the box. After a day or two, the grass will wilt and the bees will chew through and home to that spot.

There are other techniques to reduce a strong hive's population. During the middle of the day when the bees are flying well, interchange the strong hive with a weak one. The bees returning to the original position of the strong hive will go in and carry on as if nothing has happened.

Most commercial beekeepers go through their hives and make them all the same size. This technique is called equalising, but can be dangerous if you don't fully inspect the hives beforehand. It's easy to transfer a frame with a couple of AFB-diseased cells into a clean hive, with the result that when found on the next inspection both hives will be condemned to the fire.

Spring checks

I'm now a little behind in my beekeeping. I'm still doing my full spring checks: inspecting brood, replacing old dark frames and any supers that are showing decay, as well as scraping the frames clean of propolis and brace comb, so the frames fit close together and that there is only one bee space between the frames (I use 33-millimetre-wide frames in the brood nest).

During the year, any frame that wasn't pushed hard up against the next will have the gap filled with propolis. Over time, this widens the frame spacing so that more bees are required to keep the brood nest warm. Cleaning down the shoulder of the frames (I do it without removing the frames) gives me back the correct spacing between frames. Hopefully the season will also be a little behind so that I can get around them all before the first real nectar flow starts: for hives near our native bush, mid- to late October will see Kamahi in flower.

Just before this flow starts, I set up the hives to get them ready for the flow. I reverse the first and second supers to get the majority of brood into the bottom super. Then I interspace foundation frames between drawn frames in the third super, and then add another two honey supers (I use three-quarter-depth supers) to make each hive five supers high.

At the moment, every visit I do a quick inspection for queen cells by tilting back the second super and looking for queen cells along the bottom bars of the second super. If none are found, I return to the bottom super and then take a quick look in the top two

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supers. Any frames with nectar are moved to the outside of the supers to encourage the bees to fill all the frames in the super.

When the top super is half full, add another super and forget about swarming as the bees will settle into collecting nectar rather than swarming. Most hives with autumn queens will not swarm but there are exceptions; hence it pays to check all hives regularly leading up to the main flow.

For those whose main flow is in December, continue to do a quick queen cell check of the hive(s), feed if there's less than three full frames of honey in the hive (a week's food for a strong hive) and give the queen somewhere to lay. As soon as you see the bees putting a band of honey on top of the brood frames, it's time to add another super and to lift a couple of frames into the next super up to expand the brood nest; otherwise the bees will start making queen cells because the brood rearing is being compressed.

Tips for new beekeepers

For those just starting off it's all a bit of a daze. How do you know that your hive is expanding as it should? Although queen breeders do their best, queens are not always equal. Some will bolt away expanding the brood nest; others seem to be slower in getting established. If the bees detect the queen isn't up to scratch, they will make supersedure cells to replace her. The problem for new beekeepers is to determine what's going on. Generally with a new beekeeper, any queen cells produced can look like swarming so the beekeeper cuts them out. However, this could be a problem if the queen has suddenly failed and there aren't any eggs available for the bees to produce another queen.

Nuc made up in coreflute box and moved to another apiary.

When you come across a queen cell while inspecting a hive, put that frame aside. Look at where it's been made. If it's at the top, bottom or around the edge it could be a swarm cell. If it's in the centre it's usually an emergency cell—the queen went missing or was killed so the bees select a young larva to rear as a new queen.

Inspect the rest of the hive. The number of queen cells gives you a clue. Generally fewer than five is a supersedure; more indicates swarming but this is not always the case (the bees haven't read the books, hence the word 'generally' as there are always exceptions). You need to look for eggs in the brood frames. Eggs indicate you have a queen in the hive or that she was there three days ago. (Bees can swarm and you may not notice the difference in bees in the hives if there are a lot of bees emerging.)

What I normally do is make a nuc with the frame that has a queen cell on it. If the cell is at the bottom of the frame, I will carefully cut around it and then press it on to the surface of the frame near the middle top, making a place for it beforehand by scratching away a little of the comb surface. (There needs to be a clear area at the bottom of the cell so the queen can emerge.) The bees will keep the middle of the frame warm if the nuc gets depleted of field bees so the cell will be kept warm and the queen will emerge.

By making a nuc, you have covered your bets. If the hive was making preparations to swarm, you have reduced the bee population and therefore hopefully suppressed this urge. If it was a supersedure cell, you have a replacement queen should the bees fail to raise one in the original hive.

Things to do this month

Check food, sugar feed when there are only three frames of honey left in a hive—a week's supply for a strong hive. Check pollen. Check that hive stands are sound—they will carry a lot of weight when the hives are full of honey. Do an AFB check: check all frames!

Raise queen cells. Requeen hives with mated queens or introduce a nuc to a weak hive after removing the old queen. Carry out swarm control measures: reverse supers and remove frames of emerging brood. Cull out old frames on the edge of the brood nest and replace with one or two frames of foundation. Replace any supers that are starting to rot away in the corners.

Hive ready for splitting.

Queen cells cut off and moved to the top of the frame.

Check for varroa mites. Verify your treatments are working by removing 50–100 drone brood at the pink-eye stage with a cappings fork, or do a sugar shake. (After the first shake, add more sugar and shake three or four times as not all mites are removed on the first shake.)

Check your stored honey supers for wax moth. Have all your new gear ready for the honey flow. Super hives on early flows.

All photos by Frank Lindsay.

Biosecurity (National American Foulbrood Pest Management Strategy) Order 1998

AFB Reporting and Destruction Form

7 Day notification to the Management Agency, of a case(s) of American foulbrood

North Island notifications to be returned to:
Byron Taylor or Murray Reid, AsureQuality Limited
Private Bag 3080
Hamilton

South Island notifications to be returned to:
Tony Roper or Marco Gonzalez, AsureQuality Limited
Private Bag 4718
Christchurch

Beekeeper Name (print): Beekeeper Registration Code: _____

Company Name:

Postal Address:

Home Phone: _____

Work Phone: _____ Fax: _____

Mobile Phone: _____ E-mail: _____

MAF Apiary Number: _____ Date found: _____

Grid Reference: _____ Date destroyed: _____

Number of Hives with AFB: _____ Was the hive(s) a "robbed out hive"? _____

Name of Land owner or Occupier _____

Property Name if applicable _____

Address of property (street/road and number) _____

Possible source of infection:

BEEKEEPER'S STATEMENT — AFB DESTRUCTION

I certify that an American foulbrood case(s) was discovered in a beehive(s) as listed above, and that these honey bees and the associated bee products and equipment have been, within 7 days of my becoming aware of the case(s), reported to the Management Agency and have now been destroyed or dealt with in accordance with my DECA.

_____ _____

Beekeeper's Signature *Reporting Date*

Notes: Biosecurity (National American Foulbrood Pest Management Strategy) Order 1998:

Clause 26. Notification of American foulbrood—

(1) Where an American foulbrood case is discovered in a beehive, the person in charge of the keeping of the honey bees must, within 7 days of becoming aware of the case, notify the management agency and the beekeeper, in writing, of the American foulbrood case.

(2) A breach of this rule, without reasonable excuse, is an offence under section 154(q) of the Act.

Clause 28. Obligation of beekeeper to destroy honey bees and materials—

(1) Where an American foulbrood case is discovered in a beehive, the beekeeper who owns that beehive must, within 7 days of becoming aware of that case, destroy by burning all honey bees, bee products, and appliances associated with that honey bee colony unless directed otherwise by an authorised person.

(2) The provisions of this clause do not apply to—

(a) A beekeeper who is acting in accordance with the relevant provision of a Disease Elimination Conformity Agreement between the beekeeper and the management agency; or

(b) A person acting in accordance with a permission, regulation, or authorisation provided for in sections 52 or 53 of the Act; or

(c) A person acting in accordance with an exemption given under clause 30.

Office use only:	Update Beekeeper details ( )	Lab report authorised ( ) N/A
Signed:	Receipt notice sent to Beekeeper ( )	Rob out notice issued ( ) N/A
Date:	Follow up with beekeeper ( ) N/A Date:	

Amended September 2008

Project teaches children about honey bees

Submitted by Project Sunshine, Taita

Children learned a lot about the importance of bees and what they can do to protect bee populations at a special event in Wellington earlier this year.

As part of the national launch of 'Project Sunshine', Taita children were joined by young people from all over New Zealand who were participating in the UN Association's Model United Nations and helping to launch the project.

The Project Sunshine launch took place at the Hutt Valley's busiest community house, Great Start House Taita, where the children gathered to learn how to collect the seed from sunflowers and hear beekeeper Alan Kilminster talk about bees.

Alan described what it's like working with bees and talked about the importance of bees. He also showed children how to build a 'bumble bee box' that would provide a cosy home for bumble bees when they emerge in Spring.

The group then headed to a local park to do a planting of natives to support local bee foraging.

Project Sunshine was designed by the Great Start Taita children's gardening club. In 2010 the club planted hundreds of sunflower seedlings through the streets of Taita to make their community more beautiful. With the planting of the sunflowers, something magical happened: the sunflowers generated pride and joy. The project also supported residents to build connections with each other and with their physical environment.

As the children learned about sunflowers they also learned about the importance of bees, and their current plight. They realised that sunflower planting could help other children to make their communities beautiful, build connections between people and also ensure the survival of the bee population.

The children and young people who participated in the launch of Project Sunshine have taken sunflower seeds home and they will work with children in their own communities to plant seedlings. They have been invited to write stories about their experiences and post photos of the resulting plantings on the Project Sunshine Aotearoa Facebook page: www.facebook.com/#!/pages/Project-Sunshine-Aotearoa/177935535598813

Photos provided by Project Sunshine.

To become part of the Project, groups, schools and individuals are invited to contact Julia Milne at Great Start House, Taita or through the Facebook page.

Who do you call?

The Secretariat receives 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 NPMS
PO Box 44282
Lower Hutt 5040
www.afb.org.nz
Email: rbaynes@ihug.co.nz
or info@afb.org.nz

ASUREQUALITY LIMITED

- Annual Disease Returns (ADR)
- Certificate of Inspections (COI)
- Disease Elimination Conformity Agreements (DECAs)
- AFB Destruction
- AFB Finds

North Island – Bob Derry, Registrar
Ph: (07) 850 2837
Fax: (07) 850 2801
Email: derryb@asurequality.com

South Island – Margaret Roper, Registrar
Ph: (03) 358 1717
Fax: (03) 358 6222
Email: roperm@asurequality.com

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Post: Private Bag 6001, GERALDINE 7956, New Zealand
Factory: 44 Gladstone St South, ORARI, South Canterbury
Phone: 64 3 693 9189; Fax: 64 3 693 9780
Email: info@beeswax.co.nz; Web: www.beeswax.co.nz

The Beeswax Specialists

CLUB CONTACTS AND BEEKEEPING SPECIALTY GROUPS

WHANGAREI BEE CLUB
Meets first Saturday each month (except January)
Time: 10.15 am, wet or fine (we are keen)

Contact: Mike Maunder, Phone: 09 437 5847
Arthur Tucker, Phone: 09 436 1631
Kevin & Melissa Wallace
Phone: 09 423 8642 (Wellsford)
Email: whangareibeeclub@xtra.co.nz

AUCKLAND BEEKEEPERS CLUB INC
Meets second Saturday monthly at Unitec, Pt Chevalier, Auckland.

Contact: Kim Kneijber, President
Phone: 09 418 1302
Email: kimk_bees@hotmail.com

Alan Harwood, Vice President
Phone: 09 818 9314
Email: a.m.kingswood@clear.net.nz

Website: www.aucklandbeekeepersclub.org.nz

FRANKLIN BEEKEEPERS CLUB
Meets second Sunday of each month at 10.00 am for a cuppa and discussion.
10.30 am open hives.

Contact: The Secretary
PO Box 1082
Pukekohe Auckland 2340
Email: franklinbeekeepers@gmail.com
Website: https://sites.google.com/site/franklin-beekeepersclub/Home

WAIKATO DOMESTIC BEEKEEPERS
Meets every third Thursday (except January) at 7.30 pm *For prospective members: please contact the Secretary for venue meeting place.*
NB: We hold the Sept and March meetings at the club's hives.
Contact: Peter Gray, President
Phone: 07 855 0290 Email: graypj@xtra.co.nz
Maryanne Partridge, Secretary
Phone: 07 825 2691 Email: partridge4@xtra.co.nz

HAWKE'S BAY BRANCH
Meets at 7.30 pm, Arataki, Havelock North for workshops or meetings as advised to the members

Contact: Mary-Anne Thomason, Branch Secretary
Phone: 06 855 8038
Email: hbnba.secretary@xtra.co.nz

John Berry, Branch President
Phone: 06 877 6205

TARANAKI BEEKEEPING CLUB
Contact: Stephen Black
685 Uruti Road RD 48, Urenui 4378
Phone: 06 752 6860
Email: beeclub@beesrus.co.nz

WANGANUI BEEKEEPERS CLUB
Meets every second Wednesday each month (except January), at 7.30 pm at Canaan Apiaries, Mosston Rd., Wanganui.

Contact: Neil Farrer, Secretary/Treasurer
Phone 06 343 6248

MANAWATU BEEKEEPERS CLUB
Meets every fourth Thursday in the month at Newbury Hall, SH3, Palmerston North

Contact: Paul Jenkin, Chairman
Phone: 06 376 8543 (after hours)
Email: paul@manawatubeeclub.org.nz
Leon Sullivan, Secretary & Media Liaison (Acting)
Email: secretary@manawatubeeclub.org.nz
(NB: Preferred address for email correspondence)
Mobile: 021 348 201
Phone: 06 364 3631
Mailing address: PO Box 4103, Manawatu Mail Centre, Palmerston North 4442

WAIRARAPA HOBBYIST BEEKEEPERS CLUB
Meets the second Sunday of the month except January, Norfolk Road, Masterton, 1.30 pm.

Convenors: Diana and Neale Braithwaite
Phone: 06 308 9101
Fax: 06 308 9171
Email: dine0909@xtra.co.nz

WELLINGTON BEEKEEPERS ASSOCIATION
Meets first Wednesday of the month (except January) at 7.30 pm in the Community Hall, Johnsonville Community Centre, Main Hall, Ground Floor, Moorefield Road, Johnsonville. All welcome.

Contact: Richard Braczek, Chairman
5 Tyndall St., Waiwhetu, Lower Hutt 5010
Email: ibraczek@paradise.net.nz

John Burnet
21 Kiwi Cres, Tawa, Wellington 5028
Phone: 04 232 7863
Email: johnburnet@xtra.co.nz
Website: www.beehive.org.nz

NELSON BEEKEEPING CLUB
Meets first Tuesday of every month, 7pm
Waimea Lounge, Richmond Park Showgrounds
Lower Queen Street, Richmond
Contact: Rae Butler, President
Ph: 03 544 6095 / 027 430 1106
Email: tasmanbees@gmail.com

MARLBOROUGH BEEKEEPERS
Contact: James Jenkins, President
159a Budge St., Blenheim
Phone: 03 577 5433
Mark Biddington, Secretary
8 Belvue Crescent
Witherlea, Blenheim 7201
Phone: 03 578 9746
Email: amandab@xnet.co.nz

SOUTH CANTERBURY REGION

Contact: Peter Lyttle
Phone: 03 693 9189

CHRISTCHURCH HOBBYIST CLUB
Meets on the first Saturday of each month, August to May, except January for which it is the third Saturday. The site is at 681 Cashmere Road, commencing at 1.30 pm

Contact: Helen English, Secretary
Email: chch.beekeepers@gmail.com
Website: http://www.chchbeekeepers.org.nz

NORTH CANTERBURY BEEKEEPERS CLUB
Meets the second Monday of April, June, August and October in Rangiora.

Contact: Mrs Noeline Hobson
4/76 Tennyson St., Sydenham, Christchurch 8023
Phone/fax: 03 337 3587
Mobile: 021 2112 655
Email: n.hobson@slingshot.co.nz

CENTRAL OTAGO REGION

Contact: Nick Loughnan
Email: cobeekeepers@actrix.co.nz

Jo Boyd
Email: sunvale.meadows@xtra.co.nz

ACTIVE MANUKA HONEY ASSOCIATION (INC)

P O Box 19348, Hamilton
Website: www.umf.org.nz

Contact: Moira Haddrell, Chairperson
P O Box 862, Cambridge 3450
Phone: 64 7 827 3286
Email: info@haddrells.co.nz
or
John Rawcliffe, General Manager
St Heliers, Auckland
Phone: 09 575 3127
Cellphone: 027 441 8508
Email: rawcliffe@actrix.co.nz

NZ COMB PRODUCERS ASSOCIATION

Contact: John Wright
Phone: 09 236 0628

DUNEDIN BEEKEEPERS CLUB
Meets on the first Saturday in the month September–April, (except January) at 1.30 pm. The venue varies so check phone or email contact below.
Contact: Margaret Storer, Secretary
Phone: 03 415 7256
Email: flour-mill@xtra.co.nz
Website: http://dunedinbeekeepersclub.org

NZ HONEY BEE POLLINATION ASSOCIATION

Contact: Russell Berry
Phone: 07 366 6111

NZ HONEY PACKERS AND EXPORTERS ASSOCIATION INC
Contact: Allen McCaw
Phone: 03 417 7198
Email: amccaw@clear.net.nz
or
Mary-Anne Thomason, Phone: 06 855 8038

NZ QUEEN PRODUCERS ASSOCIATION

Contact: Russell Berry
Phone: 07 366 6111

BEE PRODUCTS STANDARDS COUNCIL

Contact: Dr Jim Edwards, Chairman
Phone: 06 362 6301

Is your group or Branch missing from here? Or have your details changed? Please contact secretary@nba.org.nz
Please also send any changes or additions to: editor@nba.org.nz

NATIONAL BEEKEEPERS' ASSN OF NZ (Inc.) EXECUTIVE COUNCIL

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Barry Foster (President)
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Fax: 06 867 4508
Mobile: 027 449 7131
Email: bjfoster@xtra.co.nz

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Neil Stuckey
PO Box 303251
North Harbour
Auckland 0751
Ph: 09 415 5931 (w)
Email: neil@whoney.co.nz

Southern North Island Ward
Mary-Ann Lindsay
26 Cunliffe Street
Johnsonville
Wellington 6037
Ph: 04 478 3367
Email: lindsays.apiaries@clear.net.nz

Central South Island Ward
Trevor Corbett
PO Box 20
Waipara, North Canterbury 7447
Ph: 027 450 4567
Email: beeworks@xtra.co.nz

Waikato Ward
Stephen Black (Vice President)
Bees-R-Us
685 Uruti Road, RD48
Urenui 4378, Taranaki
Ph: 06 752 6860
Email: bees@beesrus.co.nz

Bay of Plenty Ward
Neil Mossop
Mossop's Honey
1064 State Highway 29
RD 1, Tauranga 3171
Ph: 07 543 0971
Email: neil@mossopshoney.co.nz

Upper South Island Ward
Kerry Gentleman
Ward-Holmes Road
RD2, Takaka
Ph: 03 525 7571
Fax: 03 525 7569
Email: frazer.kerry@clear.net.nz

Lower South Island Ward
VACANT

NBA Branches: First named is President/Chairperson. The second named is Secretary.

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Ph: 03 207 1866
Email: carne@glassbrothers.co.nz

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PO Box 163, Te Anau 9640
Ph: 03 249 7954
Email: sl.honey@gmail.com

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Email: birdsnbees@xtra.co.nz

If your details have changed, please email editor@nba.org.nz and secretary@nba.org.nz so that we can update your details in the journal and the NBA website.

Photo: Ralph Woods, PhotoShed

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